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# Cleanings in Bee Culture





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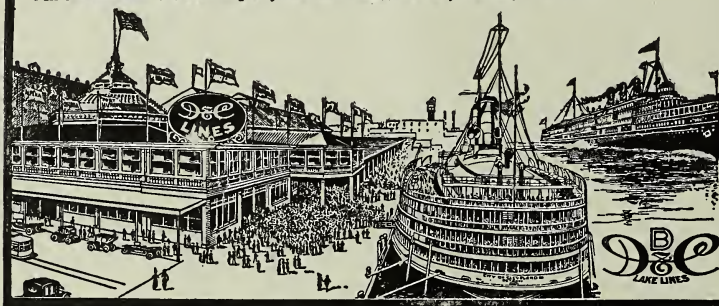
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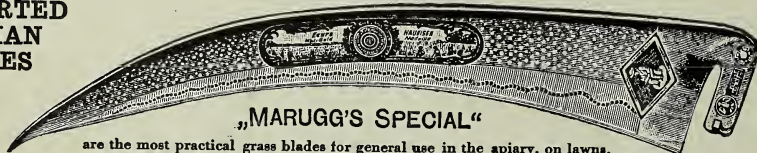
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# Gleanings in Bee Culture

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## EDITORIALS

### Honey Crop Conditions; A Queer Season

THE severe and prolonged drouth in southern Texas, cold chilly weather in the first part of the season in California, frost and freezing, and backward weather in Colorado and the mountain districts; too much rain and cold over a large part of the clover districts in the north central states where clover was promising; drouth in New York and parts of Pennsylvania, and unfavorable weather in the East, have had a tendency to put a damper on the hopes of beekeepers over all the country. In the mean time, conditions have improved in California, and some beekeepers have already secured a crop.

Up to as late as the 24th of June we have been having cold nights and cold, windy, sunless days. Clover was abundant in patches; but the temperature was too low for the proper secretion of nectar. Precisely the same conditions prevailed in many other localities where clover was promising. But now, fortunately, the continued spell of cold has been broken, and good honey weather is now on, and it looks and *feels* as if it would stay on. Our bees have taken a new start, and there is just a chance for us to secure some honey, as basswood was never more promising. In Michigan, Wisconsin, Minnesota, Canada, northern New York, and the New England states, this warm weather will probably come soon enough to catch all the honey that there may be in clover. In the clover districts further south clover has been out for two weeks, and there are good chances of a light crop, as there are at least ten days more of clover, with splendid prospects for basswood where there is any.

Taking it all in all, it is impossible to predict what the clover crop will be, although it is safe to say it will not be large, except, perhaps, in the more northern states.

Many reports speak of the immense amount of clover in bloom, while others say that it is very scarce.

We hope our readers, as soon as they read this, will continue to send in their postal-card reports. They are mighty helpful in making up these honey reports.

Prices should have an upward trend on all grades of honey, particularly on southern honey, which has been a failure in many parts of the South.

### Those Patches of Yellow Sweet Clover Next to the Home Apiary

WHEN we let loose our carload of bees from Texas (referred to elsewhere) there was a perfect roar on the yellow sweet clover; and notwithstanding white clover and alsike were out abundantly, the bees seemed to prefer the yellow blossoms, although they worked on both.

Yesterday, June 22, the temperature was down to 60, with a cold northwest wind. It was cold this morning, the 23d, down to 55, and yet there was a sprinkling of bees on the sweet clover and alsike, but by no means as many as there were the day before when the temperature was up to 70; and when it is really hot there is a perfect swarm of bees going back and forth, for the yard is only a few rods away.

Fearing that we had overstocked the home apiary with a whole carload (there were already 150 colonies there) we moved 150 of the strongest to the outyards. Notwithstanding the home yard was apparently overstocked, we found that the outyard bees, when the weather was cold, were getting almost nothing, while the home bees that had this sweet clover were storing some honey.

As explained elsewhere the Texas bees arrived at Medina short of stores. At least half of them had only a dozen cells of honey when they arrived at Medina; and you just ought to have seen the way they jumped into this yellow sweet clover. When we moved the Texas bees to the outyards, away from the yellow sweet clover, they were down to the verge of starvation; while those



left at the home yard kept on storing from the sweet clover in spite of the fact that the temperature was down to 55. It was, therefore, necessary for us to feed at the outyards by a method which we explain elsewhere.

### Unreasoning Prejudice against Bees, Cats, Dogs, etc., on the Part of Some Good People

SOME two weeks ago the editor of the *Rural New-Yorker*, Mr. H. W. Collingwood, inclosed a letter from a correspondent complaining somewhat of the attitude of the *Rural* because it recognized the valuable work of the bees in pollinating fruit-trees. This correspondent went on to state that bees were causing blight on his fruit-trees, and that they were a nuisance generally. We prepared a reply showing that, while bees might scatter blight, they do tenfold more good than harm in making more and better fruit, and that the damage they do to trees is not nearly as serious as stated. This reply appeared in the *Rural New-Yorker* for June 12. In acknowledging the receipt of this, Editor Collingwood, in his usual characteristic way, writes:

*Dear Mr. Root:*—I thank you very much indeed for your letter and for the article, which seems to me a very sensible one. I am glad to get this, as I think it puts it up to our readers just right. I find that people appreciate a good strong discussion of a subject, and want to have all sides of the matter brought out.

For some reason, which I have never been able to understand fully, we have a class of people in this country who have no use whatever for a "bee." Some people, as you probably know, vent a lot of spite on a dog. I know a man who hates a cat on general principles, and every time he goes out hunting he shoots every cat he can find, no matter whom it belongs to. I have another friend who, unhappily, thinks a child is about the worst nuisance that ever came into the world. I have seen him look at children, and I knew perfectly well that he was saying to himself, "Oh for the days of good King Herod!" and so there is no use trying to analyze these pet hatreds or pet abominations. Some men can see nothing about a bee except a very instructive word he carries at the end of his tail. They can appreciate his arguments in that line, and do not want to know anything more about him; and so I am glad to have our friend, the busy bee, have his innings, and I am much obliged to you for sending me to bat with a fair chance of making a base hit or a home run. One of them made a base hit on my little boy the other day, and the boy certainly made a home run for the house. He went back, however, as he now has a hive of his own, and he is getting to be something of a beekeeper.

New York, May 26.

H. W. COLLINGWOOD.

Mr. Collingwood strikes upon a point that is worth bringing out—the unreasoning prejudice on the part of some good people against certain useful animals. While we admit that there are useless curs that are a

menace and a nuisance to the public generally, there are some dogs that are invaluable. Years ago, when A. I. Root was raising garden truck and running a series of cold-frames and greenhouses, some big and little dogs persisted in walking over these cold-frames and breaking the glass. To him a dog was about as useless a thing as one could have on the premises. He was overrun with rats in spite of steel traps and cats. Much to his chagrin, the children got a little black-and-tan rat terrier; and he was a holy terror to rats. He kept so everlastingly after them day and night that he drove them off the premises; and for three years after his death, not a rat showed up. From that day to this, A. I. R. has had a most wholesome respect for *some* dogs, and particularly for *that* dog. He has always believed in good cats for catching mice.

Some of our friends the fruit-growers have a similar prejudice against bees. Some day they will wake up, like A. I. R., and discover that the very thing they once regarded as an enemy is, after all, one of their best friends.

By the way, if you have never read the *Rural New-Yorker*, you are missing something. Editor Collingwood's editorials sparkle just like the letter above. Moreover, he is a practical farmer himself. If you are interested in soil culture or in being outdoors, get acquainted with the man by taking his paper, and you will be the richer—spiritually as well as financially. There is hardly a journal that *dares* to expose humbugs like the *Rural*. It is an all-around paper, and, what is more, it has been a staunch friend of the bee.

### Carniolans Hustlers and Early Risers

IN the carload of bees from Texas there were about a third of them Carniolans. After the bees had been released, the Carniolans were very much in evidence in the sweet-clover patch referred to elsewhere; and, remarkable to relate, notwithstanding there were ten times as many Italians in the yard as of the dark bees, there were as many Carniolans on the sweet clover as of Italians. The next bees that were much in evidence were the dark or leather-colored Italians; while the extra-yellow and the goldens were conspicuous by their absence.

Moreover, in the early morning, when the temperature was down to 60, the Carniolans were the first to go to the fields. Several of us noticed that, even as early as three and four o'clock in the morning, these black bees were going to the fields.

Mr. Wilmon Newell, who furnished the bees, has been breeding some very superior strains of bees, and among them were Carniolans. In fact, he has been conducting some valuable experiments in breeding bees, a report of which was given in a late bulletin from Texas. See GLEANINGS, page 214, March 15. That he got results is shown in the Carniolan strains at least.

Our Carniolans are now placed in out-yards by themselves, to prevent cross-breeding with the Italians. We find this particular strain very gentle, and regular hustlers. We have no Carniolan queens—only bees—so we cannot be accused of booming something for the sake of selling.

While we have somewhat opposed these bees on account of their swarming propensities, we are glad to say a good word in favor of any strain of bees that is not afraid of the cold, and that works early and late, even if they do have an inborn propensity to swarm in season and out of season.

### The Arrival of the Second Car of Bees in Medina

THE second carload of bees arrived at Medina at 4 p. m. Sunday, June 20. Had they arrived on schedule time they would have reached here sooner by about twelve hours. They started from College Station, Texas, on Tuesday night, June 15, making four days and five nights on the road. The conditions at College Station were very unfavorable. High temperature and prolonged drouth had made it impossible to feed, and in consequence the bees before they started, or at least a good portion of them, were short of stores. The shipper, Mr. Wilmon Newell, asked us whether it would be practicable to feed the bees *en route*, as he found it almost impossible to feed on account of robbing. We advised against it, fearing it might stir up the bees, get them excited, and, being unable to discharge their feces, they would die before they reached Medina. As Mr. Newell, however, found it utterly impossible to feed before starting, on his own responsibility he directed our man to feed on the way. He furnished for the purpose several cans of thick horsemint honey from a locality where foul brood had never been known. With a large spoon or ladle this honey was spread thinly over the wire cloth of the colonies that were short of stores. Not enough was put on at a time to run through. This was done at intervals, and, contrary to what we had feared, colonies so fed came through in nice condition. The only losses were dead bees on the wire

cloth in colonies so strong that they died from excessive heat; for be it known that the car started when the temperature was 110 in the shade.

The method of loading the bees will be fully described and illustrated in another issue.

### Carelessness in the Matter of Managing Foul Brood; Bees on Shares

WE have complaints from two or three beekeepers who have placed their bees in the hands of Geo. H. Kirkpatrick, of Rapid City, Michigan, to run on shares. It seems that the deals did not prove to be very satisfactory to any of the parties, and now they have complained to GLEANINGS that there has been unfair treatment on the part of the caretaker. After reviewing quite a mass of correspondence we are inclined to believe that Mr. Kirkpatrick, who was fairly successful before foul brood got into his territory, had all kinds of bad luck after the disease got started. At all events, foul brood developed among the bees in his charge, and the disease kept going on from bad to worse, with the result that they nearly all died. Two different parties complain that bees they placed in Mr. Kirkpatrick's charge contracted foul brood, and finally died so that they lost the value of their investment.

It appears that Mr. Kirkpatrick has had a great amount of sickness and death in his family. It also appears, if the testimony of reliable people can be believed, he leaves combs, honey, old hives, and frames scattered over the premises. That he has made an effort to cure foul brood among the bees put in his care, there can be no doubt; but no one can cure that disease and have his combs and hives scattered about in promiscuous heaps, as one of our reliable beekeepers who called on him testified.

One man, Mr. L. C. Woodman, put in the hands of Mr. Kirkpatrick a carload of bees. The former says that the following spring 100 of his colonies had starved in the cellar, notwithstanding in the contract Mr. Kirkpatrick was to feed 25 lbs. of stores to each colony. The expense of this was to be divided equally between them. Foul brood developed later, and things kept going on from bad to worse until all were dead. Mr. W. E. Forbes says he lost 100 colonies placed in Mr. Kirkpatrick's charge under similar circumstances. Still others have made like complaints.

While we do not believe that Mr. Kirkpatrick is dishonest, we cannot advise any one else to furnish him bees to be worked



on shares, in view of the reports that have come. No one can clean out foul brood unless he takes care of his old combs and hives.

Some three years ago Mr. Kirkpatrick had a beautiful home which he bought and paid for from the proceeds of his bees. We saw the place, and greatly admired it. At that time he had the reputation of being a good beekeeper; but in later years it would appear that foul brood, and sickness and death in his family, had materially handicapped him, with the result that he seems to have lost heart and grown careless. While we feel sorry for him, that does not excuse him for letting other people's property placed in his hands go to ruin.

If any one is going to put bees out on shares he ought to make sure that there is no foul brood anywhere in the locality where the bees are to be worked. Another thing that should be taken into consideration is that one who may be able to handle a small number of his own colonies with success may make a complete failure when he attempts to run the business on a larger scale, especially if he attempts to operate another's bees.

### How to Feed Bees on the Verge of Starvation, without a Feeder, and do it with a Minimum of Labor

As explained, some of our outyards where we moved colonies that were short of stores were on the verge of starvation. If it would only warm up so the bees could get at the acres and acres of alsike clover, which was in the height of its bloom, no feed would be necessary; but it remained cold, and it is cold yet, June 23, although the Weather Bureau says we shall now have warmer weather. But it no sooner warms up a little than we have several days of cold. The result has been that one day we are expecting swarming as the result of a rush of nectar, and the next day we are expecting starved bees and starved brood. This morning, June 23, the mercury was down to 50. Examination of some of the hives at the outyards the previous night showed that some of the biggest colonies in the Texas shipment did not have half a dozen cells of honey. Something had to be done the next morning, and that right speedily. To see what we could do, we took along a can of very thick honey that we knew to be free from the germs of foul brood. We hunted up an old two-quart tin pail, bent one side of the rim so that it had a mouth or delivery like that of a coffee-pot. We filled this with thick honey, and proceeded to feed. A cold north

wind was blowing. An attendant opened a hive, blew some smoke over the top of the frames until he drove the bees down from the tops of the frames, or nearly so. We then took our little pail of honey, and poured a stream about a quarter of an inch in diameter. This stream we trailed lengthwise up and down the top-bars of all the frames. In other words, we made railroad tracks back and forth. These tracks were from a half to three-fourths of an inch wide. Sometimes they spread wide enough to run down between the combs and among the bees. If the colony was strong no harm was done. The work was done quickly; and as the honey was very thick, but little of it ran down between the combs. After feeding one colony we cut off the drip and went to the next hive. In like manner we went through the whole fifty colonies in about thirty minutes. When we got through with our feeding we found we had used a trifle over 50 lbs. of honey. That is to say, we gave each colony one pound of thick waxy honey without the use of a feeder or appliance of any sort save an old tin pail. A tin can of any sort will do just as well provided the rim on one side is made like that of a common coffee-pot beak so as to pour a small stream. When a colony is on the verge of starvation a pound of thick waxy honey is quite sufficient to tide it over until nectar from the fields comes in.

Of course this method of feeding is applicable only where a small amount is needed to tide the bees over until a flow from the fields comes in. In feeding larger quantities, regular feeders, of course, should be used.

When giving food in this way, care should be taken not to pour over the colony enough so that it will run down between the frames on the bottom-board. It might run out at the entrance, and start an uproar of robbing.

Precaution should also be taken to drive the bees down from the tops of the frames. While it would do no great harm to daub the bees with honey or syrup, it is best to avoid it if possible. A bee that has been smeared we do not believe is quite as good a bee after, even if it is thoroughly cleaned by its mates. If one will work carefully he need daub hardly a bee.

If the atmosphere is at all cool, lift the covers from all the hives. If there is a cool wind blowing, and the colony is not strong, the bees will quickly go down between the frames. Now is the time to pour the syrup over the tops of the frames, as explained, and then put on the cover immediately after each pouring.



Dr. C. C. Miller

## STRAY STRAWS

Marengo, Ill.



JOSEPH J. ANDERSON tried keeping colonies separate with newspaper, and failed, p. 500. Newspaper is not intended to keep separate permanently, but to unite, and for that purpose is a great success, as it no doubt was with him.

I'VE ALWAYS said that bees would put no honey in the super so long as there were empty cells in the brood-chamber. I'll never say it again. June 1 I found brood-chamber after brood-chamber destitute and a little honey in the super. But drawn combs were in the super. I suspect it's still true with only foundation in super.

A NEW MEXICO correspondent last year had 146 swarms from 200 colonies in 38 days, and asks what to do. Get all you can from the books (Fifty Years among the Bees is especially full on the subject), and then study out what best suits your case. If you dequeen a colony, and then in ten days give it a *young* laying queen, it will not swarm. Or, take away its queen, and at the same time drop in, without caging, a virgin less than 24 hours old.

HERE it is the middle of June, clover blooming abundantly, and bees on the point of starvation. Rain, rain, rain, cold and rain—don't know whether there's any honey in the clover; but from the way the bees work the few spells they can fly I suspect there is. But the prospect for a crop is not brilliant. [The same condition prevails here at this writing, June 21. The bees are going to the fields whenever it warms up enough. We may yet get a crop of honey, but it begins to look doubtful. Already the farmers are beginning to cut their alsike, which is our main stay; but fortunately they cannot cut all the alsike along the roadsides, nor are they going to cut down our basswoods—at least not this year. So we are waiting and hoping. This hope is the stronger because experience has taught us that *sometimes* our main honey-flow in the North comes after the first of July. Repeated rains in June, such as we have had this year, renders it not impossible to have the bulk of the honey in that month.—Ed.]

"DEQUEENING . . . may be sufficient; but it may be advisable to shake as well as requeen; and it may be necessary to shake again until the disease begins to lose some of its virulence," p. 480. That from the man who got me to dequeen instead of shake! I had experience with both shaking

and dequeening, in cases where European foul brood had not begun to lose its virulence, and it would take proof to make me believe that there is any case where it is either necessary or advisable to shake once, let alone twice. In American foul brood, yes; but never in European foul brood. Neither is it necessary always to requeen—never, unless a better queen can be given. Just stop brood-rearing for ten days or so. The bees will do the rest, although it may be necessary sometimes to repeat it. [It is true that we persuaded you to dequeen and requeen when European foul brood broke out in your beeyard. We do not remember whether we advised you not to shake or not. From the investigations we made at the time we were hopeful that requeening alone might be sufficient; and now you think we are inconsistent even to intimate that it may be necessary to shake as well as requeen. The statement in question was not a recommendation of ours, but a synopsis of a bulletin put out by Mr. Morley Pettit. The statement in question was his own and not ours, or, perhaps more exactly, it was an inference from his statements.]

We are glad to know that dequeening and requeening were sufficient in your case without shaking. Shaking, and melting the combs, involves a large amount of labor and expense. While the wax secured will practically pay for new foundation, it does not begin to cover the cost of labor in addition nor the loss and interruption to the colony if the operation be performed during the honey-flow. Shaking to cure foul brood, according to our experience, is always a setback to the colony, particularly in late summer or early fall; and as a general rule such a colony will go into winter quarters rather light, and will probably die before spring. It could not well be otherwise, as the loss of all the brood cuts the strength of the colony in two, and the half remaining are old bees that will die off rapidly. If, therefore, dequeening and requeening would suffice it would be a great boon to those who are suffering from European foul brood; but according to reports from the bulletin shaking as well as requeening may be necessary.

Elsewhere in this issue Mr. G. H. Kirkpatrick has tried to cure American foul brood, but has failed; but the evidence goes to show that he has not kept away the source of infection. Possibly some of those who found shaking necessary in addition to requeening are of this type.—Ed.]

# BEEKEEPING AMONG THE ROCKIES

Wesley Foster, Boulder, Colorado.



## WEEDS AND BEEKEEPING.

The United States Department of Agriculture, Farmers' Bulletin No. 660, entitled "Weeds: How to Control Them," by H. R. Cox, names fifty of the worst weeds in the United States. The dandelion is one of the fifty, but sweet clover is not included.

Among the fifty worst weeds are found the following plants that are of interest to beekeepers: Dandelion, daisy, milkweed, mustard, and thistle. There may be other weeds among the fifty that furnish nectar or pollen, but I am not familiar with them.

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## HONEY CONDITIONS.

A very unfavorable season so far is what we have to record. Cold weather, freezes, rain, and cloudy weather have kept the bees from breeding. Most beekeepers are feeding still (June 12), and a lack of pollen has made feeding destitute of satisfactory results. Bees will have to have a good season in July and August or we shall be short in honey this year.

The most disastrous freeze of the season came late in May and ruined the early honey prospects from alfalfa. Sweet clover was set back, and the flow from fruit-bloom and dandelions was stopped.

The cold weather has prevailed throughout the Rocky Mountain region. Montana, Wyoming, Idaho, Utah, and Colorado all are served about alike. The freezing of the alfalfa was very severe in eastern Colorado, and not so serious in the western part of the state.

We have now had our ten inches of rain this season, and the precipitation of three inches above normal.

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The Montana Beekeepers' Association has an energetic secretary in Mr. Percy F. Kolb, of Billings, Montana. The beekeepers of Montana have had such a varied lot of supplies and equipment that it was thought advisable for the association to establish standards; and in order to encourage the use of uniform goods to authorize the secretary to purchase supplies for the members. The secretary has done this, sending out several hundred price lists, and I am informed that over one thousand dollars' worth has been secured for the members on a co-operative basis. The Montana Association will doubtless gain a large membership in this way, and it is hoped that the

secretary will receive some pay for his time. The secretary of the average beekeepers' association has a lot of work to do for which nothing but the honor of the office is paid. Montana is a big and generous state. They do things that way. Montana is to be congratulated on having such a secretary, and Mr. Kolb is to be congratulated in having such a loyal membership.

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Many of the alfalfa-fields in eastern Colorado have become infected with the black-stem blight, and the county agriculturists are advising prompt cutting to prevent permanent damage to the plant. The infection takes place where small breaks occur in the epidermis of the stem, due to the freeze; and, unless cut immediately upon detection, will follow the stem to the crown of the plant, which will finally die, leaving a poor stand in the field.

The first indication of this blight is a slight frost damage, all or part of the leaf turning yellow or almost orange. Yellowish, bruised-appearing places will be found on the stem in a few days, these later turning to an olive green and later still to a brownish color having a varnished appearance. The growth of the affected stem stops, and finally becomes black and brittle near the base.

This is, of course, of especial interest to beekeepers who hope to see the advice of the experts followed, as there are usually no frosts after the first cutting, and a healthy growth will be assured for the second crop. The first crop having been so badly frozen and blighted there would be no nectar in the bloom should it appear in the first crop.

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## SPREADING BROOD.

I do not wish it understood that I make a general practice of spreading brood; but at the same time it is done with satisfactory results when carried on with other operations.

A number of my outapiaries become honey-bound, and it seems almost impossible to get the colonies to build up. In these cases uncapping a comb of honey at the side of the brood-nest, and putting it either close to the center or close on one side of the brood-nest, does relieve the situation. The place that such a comb is put in the hive depends upon its strength. By uncapping sealed stores, and spreading the brood by inserting these uncapped combs in the

*Continued on page 527.*



# BEEKEEPING IN CALIFORNIA

P. C. Chadwick, Redlands, Cal.



The sad news of the death of Mrs. Acklin has reached me. I feel that I express the thoughts of her many friends when I say that a life that has filled a place worth while has passed. Such a life is not lived in vain. Mrs. Acklin was the editor of this department before the writer took up the work. She has been a recognized authority on bee topics for many years.

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I am very much surprised at the remarks of Mr. Byer in commenting on my third note, page 353, May 1. He says: "Another mystery to me, surely! is it the strain of bees or what?" I am truly astonished that it is such a mystery to Mr. Byer. The appearance of laying workers is the most common way of which I have knowledge for colonies to degenerate, while drone-laying queens are a very rare thing with me. I do not believe I have had experience with more than a dozen careers.

Fertile-worker colonies are the natural sequence of the loss of queens in winter and early spring. Breeding during the winter months is at its lowest ebb. It is no uncommon occurrence to find a colony without brood at times. The failure of a queen to lay during this period causes no alarm among the hive force since there is no incentive for a queen to lay. Naturally those failing during this period are allowed to reach a state of exhaustion where it is impossible for them to lay. They die with the colony hopelessly queenless, since there are no eggs from which another may be reared. The colony remains in this condition until, as a last resort, a worker is chosen to perform the functions of a queen.

In the same issue, page 433, the editor comments on the situation as varying so widely here from what it is with Mr. Byer. In this he seems to have in mind that Mr. Byer is astonished that so many two-year-old queens disappear, while I take it that Mr. Byer is concerned that so many of my colonies have fertile workers. I have passed the point where I am concerned about the loss of a colony from the fact of its becoming a fertile-worker colony. I expect a certain percentage of them to have fertile workers where they are not annually supplied with a young queen. The loss with me from this cause where requeening has not been practiced reaches not less than ten

per cent annually. With young queens the loss is a negligible quantity. E. R. Root is entirely correct, however, when he says a queen's life in this climate is much shorter than it would be in the East where the queen is inactive during the winter months. But his surmise that I may have a sprinkling of Cyprian or Holy Land bees is wrong.

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I wonder if it would be out of order if I should arise to make a few remarks about the much-discussed question of spreading brood, now occupying the minds of the editor and the department correspondents. Under certain conditions I am a firm believer in brood-spreading, but only under conditions prevailing with individual colonies do I practice it. However, it is profitable to observe the conditions of every colony to ascertain where it is safe to spread. To my mind there is gain in judicious spreading of brood in early spring, for an extra comb of brood early is worth much to the future of the colony.

But by the term "spreading" I have in mind not only the parting of combs to insert an empty one, but using other means to the same end. In our climate, conditions may be somewhat different from those in the East; yet my long experience there, and nearly as long in this state, has not shown me where a bee here differs from a bee in the East, save by her surroundings. Here in early spring I have seen two solid combs of pollen in a hive, one on either side of two to four combs of brood. This condition is deplorable from the fact that the pollen has checked the work of the queen. It must be removed or time lost waiting for sufficient bees to hatch to cover combs outside of the pollen-bed before laying can continue. In this case the pollen combs can be set out and an empty comb placed next to the brood, which is equivalent to inserting a comb between combs of brood. It does not endanger the brood in any manner.

Often where the side of a comb next to the brood-nest is pollen-bound, aid may be given immediately by simply turning the pollen side away from the brood-nest. When a colony has sufficient bees to cover more combs than those already containing brood, it is always safe to insert an extra comb in the brood-nest. The value of spreading brood is too great to discourage, and yet too risky to practice in a haphazard manner.

Grace Allen

## THE DIXIE BEE

Nashville, Tenn.



Thank you, Mr. Chadwick.

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I was glad to see in E. S. Miles' article, page 462, June 1, that I am not the only one who gets nervous from the fear of squeezing the queen too hard, or otherwise injuring her when clipping. I shake like a foolish aspen leaf when I get started on that task.

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Our first attempt to use the Fowls adaptation of the Alexander method of increase seems to have been successful. On May 9, finding queen-cells with well-advanced larvæ, we raised the entire brood-chamber to fourth place up, leaving one frame of brood and the queen below. The bees attacked the nine full sheets of foundation with energy, and in a week had several frames of drawn comb. On May 16 we removed the queen-less brood from the fourth story to a new location, and on June 2 had two frames of eggs and young larvæ.

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Among the "Interesting People" in the June *American Magazine* is "Honest Mose," Idaho's new governor, Moses Alexander. His is an interesting story, and, according to the account, he gives promise of giving the people of Idaho a good, clean, economical reform administration. But, alas that he should say, mentioning the needless expense that he intends to cut out, "It does not appeal to me to have such officers as bee inspectors. The people have certainly been stung enough already"! Surely some of Idaho's enthusiastic beekeepers will be able to show Governor Alexander the real economy of maintaining the office.

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That dry April I commented on last month has been labeled by the Weather Bureau the driest in forty years. Headed by a dry cold March, it was tagged by a dry May—that is, till about the middle of the month. The clover came unusually early, hurried into an early maturity by the dry weather, we heard it explained, while the bees, retarded by the long-lingering winter, had been late in building up. That is not a happy combination. Then in mid-May, with clover in bloom, and a pretty fair force of bees, it began to rain, and "Sunny Tennessee" seemed as much a myth as Mr. Chadwick described "Sunny California" to

have been. For two or three weeks there was rain, cloudy weather, high winds, and the bees could not work. Several dark windy days I watched the few adventurous ones battling with the winds. It was right in their faces as they came back to their hives, and often sudden gusts forced them to make several attempts to alight at the entrance.

I kept wondering what the bees do when they are shut in that way for a week or more in the summer; but the weather that kept them in their hives kept me out. What do they do?

The locust flow was excellent, and the poplar good, though our own bees get only a little of the former, and, so far as we know, none of the latter. White clover is our main stay, and it is pretty fair. The rains may have helped it, though they came too late to give full value of good effect.

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## OF INTEREST TO WOMEN BEEKEEPERS.

Lifting is certainly the greatest problem for us. So far, in our own little yard, we have managed to do the hives with the heavy supers on either Saturday afternoon or Sunday morning, when Mr. Allen is here; but that is not always convenient, and we realize that we must work it out some other way, if I am to do the actual work, and our apiary increases as we wish it to do. Of course, there are the shallow supers to fall back on, though they mean more expense and more labor of putting frames together, wiring, putting in foundation, etc. I suppose we shall resort to them another year, however, if we don't have an inspiration in the meantime. Personally, I am greatly interested in the various articles that have appeared on the Long Idea hive, and I wish I knew a little more about the construction and manipulation of the one pictured on page 147, Feb. 15, used by Victor Vargas Gamallo, Professor of Beekeeping at Havana, Cuba. It seems as though such a hive as that might be manufactured as cheaply as the standard hive, as it does not require the large boards mentioned by the editor in that article, as a cost-objection against the Long Idea hive developed and used by Mr. Poppleton. I for one should like to be able to get into the brood-chamber without lifting off any supers. [We have an article from Mr. Poppleton going into the whole matter quite fully. This will appear in an early issue.—Ed.]



Another question for us is, "Shall we wear gloves?" I have persistently declined, claiming that my hands could become hardened to stings as well as any other; but Mr. Allen contests that, as a woman's hands are less weathered and toughened than those of men doing out-of-door work, the hardening process comes too high, and he urges gloves. But I am sure the swelling is much less now than formerly, and I scarcely notice three or four stings, nor even six or seven. (We have one or two rather unmannered colonies that nearly always punish us.) So I have rejoiced in my increasing immunity, and scorned further protection than a veil. But now, like Mr. Chadwick (or, perhaps, more like Mrs. Chadwick), I view the sting proposition at a slightly different angle, and regret to admit I am still nervous from a recent experience. It happened when Mr. Allen opened one of the hives where I require help with the heavy super. I joined him just as he turned back to the hive, after setting the super off. The smoker was in my left hand; and as I was about to use it, but before I had a chance to do that or anything else, the bees jumped on me. Only three or four tackled the hand; but a small dark cloud dropped straight to my black-hosed ankles. Forty stings is a conservative estimate. I went to the house, replaced my low shoes with high ones, and came back intending to work; but by that time I was sick and dizzy. Soon I was in bed, my face flaming red, with the color extending well over the body. Strangest of all, though I scarcely felt the stings by that time, I was suffering almost unbearable external pain, and soon began shaking with cold. Mr. Allen called a physician; but by the time he arrived (perhaps half an hour

after the attack) the worst was over. In a few hours I was up, and that evening I took a long walk. But I am seriously considering a bee-proof uniform. The one pictured by the clever cartoonist of the Backlot Buzzer, June 1, is rather an inspiration.

The interesting feature of the occurrence was that this was the colony I had boasted of as being particularly gentle. But, you see, it was during the run of bad weather mentioned above, when bees are notoriously ill-natured (and justifiably so, perhaps), though we rather thought that day was near enough fair to open the hive to look for queen-cells. It had been eight days since the last inspection; and to wait another week for Mr. Allen's help might have been too long for good results.

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#### EAGERNESS LINKED WITH CONTENT.

We love you, dear bees, for your quiet content;  
 You murmur and hum through the labor-filled hours  
 At peace with the way the blown grasses are bent  
 And the touch of the sun on the flowers.  
 In rhythmical time, like a fairyland chime,  
 Recurrent and smooth as melodious rhyme,  
 Your spirit croons calmness to ours.

And, oh how we love you, brave bees, for your flight!  
 Though gauzy your wings for such journeyings long,  
 You flash out and plunge into acres of light,  
 Exultant in swiftness and song.  
 A courage that sings—unhesitant wings!  
 You passionate, quivering, unafraid things,  
 What makes you so eager and strong?

If we all your simple contentment might learn  
 When straining hours clamor and press on us so,  
 And mount with your ardor where far visions yearn  
 When wearisome hours bring us low,  
 Awake and athrill, life's deep cup we should fill  
 With splendid achievement and quiet-wrought will,  
 Serenity, purpose, and glow.

## BEEKEEPING AMONG THE ROCKIES — Continued from page 524

brood-nest, will often reveal the limits of the queens to the bees, and they will supersede her. In other cases these combs are filled with eggs and brood very quickly. Perhaps I would do just as well to uncap the combs of honey and leave them at the side of the cluster, but I do not think so.

The danger from spreading the brood in this way is in giving the bees more space than they can keep warm. This must be guarded against. Then it is useless to spread the brood if the bees do not very soon make the brood-nest one compact mass of eggs and brood.

Perhaps my method is not so much the spreading of brood as making the bees re-

move the honey from crowded combs and fill them with brood.

Many successful beekeepers practice methods that are of doubtful value. They get a crop of honey in spite of them, not because of them. The average beekeeper does not have time to test thoroughly the value of all the practices he follows. I may be mistaken in my fancied results from disturbing the brood-nest, but I don't think so. There are things that do stir colonies to greater activity, and I believe this is one of them. The practice of spreading the brood throughout a whole apiary I do not follow; but the individual needs of each colony are looked after.

# NOTES FROM CANADA

J. L. Byer, Markham, Ontario



That statement of mine in the June 1st issue, concerning our early spring in Ontario, needs some revision at this date, June 11. While April was unusually warm, and vegetation came on in proportion to the weather, May proved to be one of the most backward on record, with cool days and some frosty nights; and as a grand *finale* to the unusual weather, a heavy frost on the night of May 26 killed tender vegetables and injured fruit in some places. At present we are in need of rain; and unless we get showers soon, clover will be very short. Bees are in fair condition, even if there have been but few days for gathering honey from spring sources of nectar, which all goes to prove once more that bees that have wintered well, and have lots of good stores to draw on, will stand a great lot of unfavorable weather conditions and yet build up for the honey-flow.

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J. E. Crane, page 394, May 15, speaks of a weed called paintbrush, or hawkweed, that is such a nuisance in Vermont. North of Brockville, in Leeds Co., where we had a large apiary for three years, this pest is established firmly in the thin rocky and sandy soil that is common there. The plant seems to be good for nothing; but it will crowd out everything else unless, as he states, it is found that sweet clover will kill it. Judging from what I saw in Leeds Co. I formed the opinion that it would be only a pest in localities where pastures were left for years at a time; but it may be that it would establish itself in good land too. Personally I do not know the botanical name of the pest; but I remember the farmers calling it paintbrush, and all expressing a fear that it was going to ruin all their pasture lands.

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Speaking of long confinements for bees during the winter, friend Doolittle thinks, page 441, June 1, that bees cannot be kept in for more than five months on summer stands and be in good condition for the summer's work. I suspect that would prove right in the majority of cases; but there are exceptions to all rules. When I wrote up the account of my trip to the yard win-

tering on aster honey, I did not care to be too sure as to how the colonies would turn out at that early date, April 7, and consequently kept on the safe side in saying how they had wintered. I am glad to say that they were much better than I stated in the May 15th issue. I have just returned from the yard a month later than above date, and, aside from some queenless colonies, not a single colony died, and we have no weak stocks in yard. Nearly all are fully occupying two full-depth stories, and some have three, with a clover-flow still ten days away. These bees did not have a flight from the last week in October till April 7, and the temperature was as low as 40 below zero. Another year might tell a different tale under like conditions; but as a rule we expect at least four months without a fly at that location, and with good stores we do no worrying.

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That editorial regarding laying workers, page 433, June 1, does not clear up matters at all so far as I am concerned. Mr. Chadwick's queens play out and so do mine. So far all is plain sailing. Chadwick finds colonies that have lost their queens, with the majority having laying workers, and here is where the difference comes in. At the York Co. yards, owing to a total failure of crop last year, no requeening was done by me; and examination this spring shows that none to speak of was done by the bees themselves. As a result, although we had hardly any actual winter loss, yet fully 10 per cent (same as friend Chadwick's) are either queenless or might as well be so far as their usefulness for this year's crop is concerned. But in every case the colony is either hopelessly queenless with but a few bees left, has a young virgin that never was mated, or else has the old clipped queen laying a few drone eggs. Long seasons or many of them does not explain the difference, and it surely must be that Mr. Chadwick has a sprinkling of Holy Land or Cyprian blood as the editor suggests. I have been told by men who have handled these breeds that they are bad for developing laying workers. [Notice that Mr. Chadwick, in this issue, says he has no Holy Land bees nor Cyprians. Is it not possible that even pure Italians would vary greatly in this respect?—Ed.]



# CONVERSATIONS WITH DOOLITTLE

At Borodino, New York.



## WORKING FOR EXTRACTED HONEY.

"You are telling us all the time how to work for section honey. Can't you tell us something about the best way of working for extracted honey?"

In the late seventies and early eighties I produced much extracted honey, selling it for 15 to 20 cts. per pound to my neighbors, and I considered it profitable; but when the price went down, from various reasons, to 7 to 9 cents I concluded that section honey was more profitable. As to my way of working in those years, I find in an old diary some notes which I jotted down, giving the best way of working to secure a good yield, or one-third more pounds than I could of section honey from colonies of approximately the same strength. I have never fully carried out these plans, but I believe them worth trying.

At the beginning of fruit-bloom examine all colonies. From those that have brood in from seven to eight frames, and as many spaces well filled with bees, take one frame of brood from the brood-nest, selecting the one containing the most nearly maturing brood. Shake the bees off in front of the hive, and put a frame containing all worker-comb in the middle of the brood-nest, in place of the comb of brood taken out. Now put on a queen-excluding honey-board, leaving it on till the close of the season. The reason for taking this frame of brood from the brood-nest is that I find the queen will lay much faster in the middle of the brood-nest at this time of the year than she will in the outside combs. This being the case, right in the middle of the brood-nest is where we want the queen doing her work. What is wanted at this time of the year, or up to 30 days before our main honey-flow comes, is all the brood and young bees we can get. The frame of brood removed is put in an extracting-super directly over the brood-nest, and the super filled on each side with empty combs, or those having only a little honey in them. The bees go right to work in this upper story. If the weather is warm, and a little honey is coming in, I can, in a week or so, take another frame of brood from this same colony. This is put in the extracting-super beside the first comb of brood, taking out a comb that was beside the first frame of brood to give it place. As the bees have cleaned the combs next to the frame of brood first put in, and put a little new honey in them, such combs are just

right to put in the brood-nest in place of the brood removed.

Just a word of caution, especially to beginners: Be a little careful not to take too much brood early in the season from the brood-nest lest the queen and bees become discouraged. Our object is to stimulate the queen to lay to her fullest capacity.

In another week, take another frame from the brood-nest and exchange it for another of the cleaned combs from the super. Five days later take still another frame of brood from the brood-nest, but this time put it in another super and set it under the first, or over the brood-nest, destroying any queen-cells that may have been started in the first super given. This system of management is to be followed just as long as the bees emerging from the extra brood gained will be of profit to me working on the clover and basswood bloom. There is a certain time during the life of a colony, each season, when we can build it up faster than at any other time during the season, and that the bees from such building-up will be of double the profit to us that they would at any other time. With a ten-frame Langstroth hive worked in this way the brood in the brood-chamber and that in the supers may amount to 14 full frames, which, barring accidents, will put 75,000 field workers on the stage of action just as the flow of nectar from basswood bloom reaches its height. In 1877 such a colony gave me 22 lbs. of extracted honey for three consecutive days, and the result of the season from that colony was 566 lbs., enough remaining in the hive for successful wintering. Some colonies worked in this way gave one-third better results than did other colonies of equal strength that were allowed to take their own course. If I wished to run two or three colonies for comb honey, 15 or 20 days before the end of the honey harvest I took two or three of these large colonies and removed the two or three extracting-supers, and in their places put on three section supers. The bees will fill three about as soon as they will one. In less than an hour these section supers will be filled with bees and they go right to work. In this way I could take nearly as much section honey (even though late in the season) as I could if the colony had been worked for section honey from the beginning of the honey-flow from clover. The sections are so nicely filled that nearly all of them will class as fancy.

# GENERAL CORRESPONDENCE

## NON-SEPARATORED HONEY—A CHALLENGE

BY ALLEN LATHAM

On page 616, August 15, 1914, the editor uses rather severe language regarding honey produced without the use of separators. Having produced comb honey after that manner for thirty years I wish to discuss the question.

If, *per se*, it were impossible to produce good marketable comb honey without the use of separators, the editor's position would be unassailable. If, on the other hand, good marketable sections can be produced without the use of separators, then the question should be debated on this issue—which system can be made to yield the better average results?

After an exhaustive use of separators, both plain and fence, I have practically discarded the use of separators as separators. I still use fence separators between the outer rows of sections and the super sides.

The one argument against the non-use of separators is divided into—

(a) Sections lack uniformity of weight.

(b) Sections cannot be crated on account of bulging combs.

As for (a) I state without hesitation that there is absolutely no truth in that notion. I have weighed thousands of sections from both separatored and non-separatored supers, and I can declare with certainty that there is as much variation in weight in the sections of one sort as in those of the other. Variation in weight is dependent upon other factors—the character of the honey-flow and the strain of bees. Only in the case of weak colonies can there be variation from other than those two factors, and such colonies should never be used in the production of comb honey. With such colonies the bees will work in only a few sections at a time, and will bulge the combs as they advance from section to section.

In the case of (b) I will admit that there will be more sections of non-separatored honey difficult to crate than there will be of these produced with separators, but far fewer than most people are inclined to believe. In my own case the bulging sections are about offset by the leaky sections due to the bees fastening the combs to the separators. Here again the strain of bees is the controlling factor. One can as easily breed out the tendency to bulge combs as

he can the tendency to fasten combs to separators.

The difficulty with slightly bulging combs is not felt when cartons are used. All comb honey should be cartoned. When not cartoned it is exposed to the dust and germ-laden atmosphere of the grocery. We owe it to the consumer to carton our comb honey. All cartons should allow about one thirty-second of an inch beeway for easy withdrawal of section, and this is ample allowance for better than 99 per cent of non-separatored honey. At times the slightly bulging comb will suffer some pressure, in which case there will be a patch of watery cappings, but seldom any leakage. There will, in fact, be far less leakage than will result from the broken cappings due to burr-combs in separatored honey. Right here I should like to say that I have no use for a carton which does not completely cover the section. I regret the encouragement that the bottomless-topless carton has received of late. It is a poor makeshift.

Arguments for the production of non-separatored honey are more than two:

(a) It is less labor to prepare supers.

(b) It is less labor to care for the product.

(c) Bees more readily enter the supers.

(d) Swarming is greatly lessened.

(e) Honey is of better quality.

(f) More sections can be put in a super.

(g) A bigger crop can be produced.

(h) Better for business.

All will, without debate, concede (a) and (b), and will readily agree that, if marketable comb honey can be produced without the use of separators, then the labor item alone settles the question. I think also that all will concede without argument that bees more readily enter a super of sections where there are no separators. A properly prepared super, put on at the right time, will do more than any other thing to keep down the percentage of swarming. Dismissing, then, the first four points in favor of non-separatored honey I pass to (e).

It will surprise many that the claim should be made that better honey can be produced without than with separators. It is actually true, and upon two counts. Non-separatored honey is better cured, and, as a rule, less waxy. The concentration of



work in one small apartment tends to cause the deposition of an excess of wax. This may account for the presence of burr-combs where separators are used. Foundation is not drawn out so thin where separators are used, and bees with wax scales do not find their way into another apartment so readily as they would to an adjacent comb. The honey is better cured in the non-separator super because there is more freedom for ventilation and the area of work is greater.

The next point (f) is worth careful consideration. Twenty-eight seven-to-the-foot beeway sections can be put where twenty-four separator sections would go, and thirty-two sections  $1\frac{1}{2}$  inches wide can be put into the same space. It will thus be seen that in a large apiary there will be 15 to 30 per cent fewer supers used to produce the same number of sections than if separators be used.

As it is my experience that a colony will complete a 28 or a 32 section super without separators in about the same time that it will a super of 24 sections where separators are used, it will be seen that from 15 to 30 per cent more crop will be produced if separators are not used.

It is better for business for this reason: Probably the chief thing that keeps the old "manufactured comb honey" canard alive is separator honey. The casual observer will not note the slight difference in the sections of a fancy lot of separator honey, and will readily think that it must have been produced by machinery. The flat board-like finish stamps the honey as artificial. Non-separator honey, with its more or less wavy comb surface, is so obviously a natural product that no suspicion is aroused.

Such is my confidence in non-separator honey that I challenge the editor as follows: I will this season select a super of comb honey produced without separators, and send it as it came from the hive to Dr. Miller. The editor can do the same with a super of separator honey. Dr. Miller can pass judgment upon these two supers upon two counts only—crating possibility of each, and uniformity of weight of the individual sections. Color, flavor, etc., are not to count at all. These two supers can

then be sent to some orphanage or old folks' home, or a hospital, and the loser will prepay the charges.

Each super must be sent just as it came from the hive without sections being removed before the super reaches the judge. In case the season is a failure with either of us, then the challenge is to be declared off for the season.

Norwichtown, Ct.

[There is one element that enters into this controversy that you have not specifically mentioned; and that is, the man. Our argument as given on page 616, Aug. 1, 1914, was based on the kind of comb honey that had come from the average beekeeper who had tried to get along without separators. On that point it was not a question of theory but of actual fact. So far as we know, practically every honey-buyer in the country has concluded that non-separator honey is a nuisance, because there is not one man in a thousand who can produce honey in this way so that it can be marketed either in shipping-cases or cartons.

Our correspondent is an expert beekeeper. We venture to say that in the contest that he proposes he might win out; and that brings up the question: We should like to have him tell specifically how he can produce good comb honey without separators, and show us a picture, or several of them, showing a comb-honey super. Even after he tells us *how* he does it, we venture the assertion that most persons will make a bungle of the job, and the resulting comb honey will be anything but fit for market. However, we are open to conviction, and, like the proverbial man from Missouri, we are willing to be "shown."

In regard to his argument for the production of non-separator honey, we will concede without argument points (a), (c), (d), (e), (f), (g). Then there remain (b) and (h). If Mr. Latham is on the job of producing a product, we might concede (b); and if others can do as well as he does we will concede (h). After all, the whole question resolves itself down to the man and the method; but we put more emphasis on the former than on the latter. We shall await with interest Mr. Latham's article describing his method.—Ed.]

## HONEY AS FILLER FOR CHOCOLATE CANDY

BY EDWARD HASSINGER

By cutting comb honey into cubes about an inch in each dimension, letting them drain on wire screen, and then coating them

with chocolate, just as other candies are made, one will have something that, in my opinion, is equal to the finest candy made.



Partial view of the apiary of Edward Hassinger, Greenville, Wis.

Granulated comb honey is the best for this purpose. I suppose extracted honey granulated can be used in the same way. With the ungranulated comb honey I have not succeeded in getting the chocolate, mixed with powdered sugar, to get hard enough for commercial purposes—perhaps because I did not give the comb honey time enough to drain dry. I suppose a professional candy-maker could get it just right. I have eaten chocolate drops with the inside filled with various liquids. I am sure extracted honey could be used in the same way. Well, just figure it out yourself. The possibilities are great in this honey-candy business.

#### PAINTING FOUNDATION WITH BEESWAX.

Arthur C. Miller has a nice row of drone-cells on the bottom of the comb shown on page 372, May 15, 1914. I have my foundation made to order, and have it made to fit the frame less one-sixteenth of an inch from each end-bar, and three-sixteenths of an inch from the bottom-bars. With the most perfectly wired frames there will be some sagging, or perhaps the foundation stretches a little below the bottom wire. Anyhow, a trifle more than  $\frac{1}{8}$  inch space between the foundation and bottom-bar gives me the most nearly perfect all-worker

combs, including the bottom row of cells. I use only the medium-brood grade of foundation. If this is painted with plenty of beeswax all around the edges the bees will use some of this wax, and fasten the foundation to the frame all around, before they draw out the foundation into comb, providing, of course, the combs are drawn in the supers.

Your paint-brush for wax will work about ten per cent better if you will take two narrow strips of wood, a little longer than your brush is wide, and nail these together through the half of the brush, about in the center. At the same time, spread out the hair so your brush will be about one inch wider than it was before, and the hair of the brush will be all in a narrow straight line. This soon forms into a curve on the side that you brush the surplus wax off into your dish. Then use the opposite side of the brush against the curve for your first stroke or two on the foundation, and reverse the brush. With some practice you should be able to paint foundation without closing a single cell with wax, providing you have the wax at the right temperature. This you can learn only by experience.

Greenville, Wis.



## BEEKEEPING IN THE BLUE RIDGE MOUNTAINS

BY J. J. WILDER

On account of poor transportation facilities beekeeping along the great Blue Ridge section of our country has developed slowly, and it is a great pity that such is the case, as it is so rich in honey resources, and much nearer our very best honey markets in the South. I have been along this great ridge of mountains for several hundred miles; and while much of it is very remote so far as civilization is concerned, yet I was somewhat surprised to find that our industry had not advanced any more than it had. As a rule this great and almost unbroken forest is full of bees, and the natives and visitors passing through this section never cut all the bee-trees, as they find they are so numerous. I have taken the lead in many bee-tree cuttings while spending the summers up there, and I have never seen bees in the forest in such good condition, such large swarms, and so much surplus stored. The honey in point of quality cannot be excelled.

Notwithstanding the poor transportation facilities, our industry has a great future there as soon as modern hives, conveniences, and methods are employed. In this way a few are becoming interested, and some have bought modern hives and are giving them a trial. I have seen only a few, and I never saw better - filled sections and supers. But log gums stand at nearly every mountaineer's home, and the illustration here shows an "ideal" apiary which consisted of over 100 colonies, all in hollow chestnut log gums, some very large and some very small, and all with large "heads" and heavy rocks on top.

This apiary is one of those owned and operated by the Lamb Brothers, who make beekeeping in this way their main line of business. I saw some of their other yards, but was unable to get good pictures of them. It was only after much climbing up a very steep mountain that I was able to get a portion of this one, which was on a knob

near the top of the mountain. The other wing extended around on the opposite side of it, with the honey-house and a great spring in the center. Where they got the idea of the honey-house I don't know unless an entirely separate place for the packing and keeping of it naturally suggested itself.

Not being able to see the owners I learned through their wives that they realized annually more than \$1.25 worth of honey per colony, which was hauled to distant markets in ox-wagons.

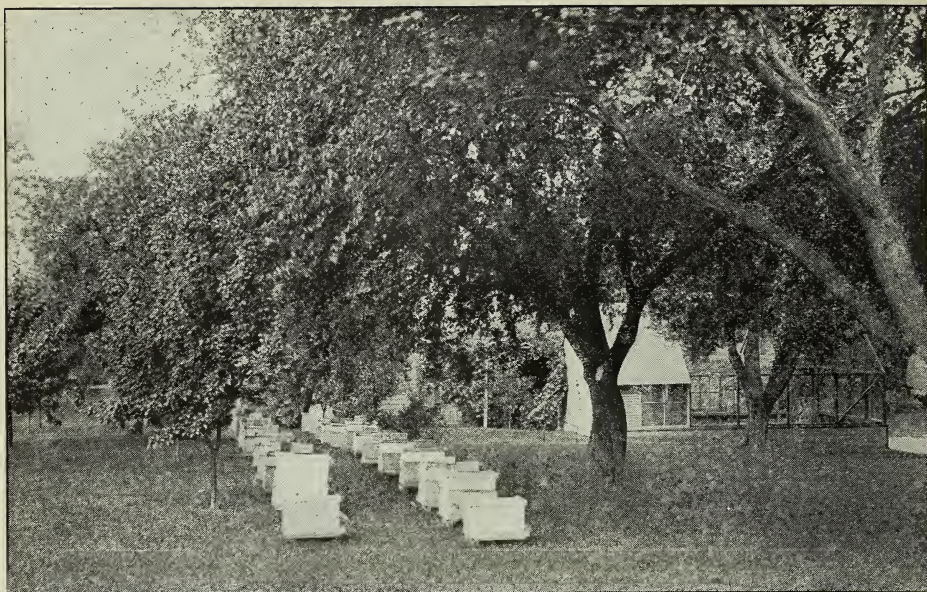
It will be seen that there is no natural shade for the bees, and that all about the hives is perfectly clean. They claim that shade is detrimental to the bees in that cool climate, and for best results they needed all the sunshine they could get. I asked if they had ever tried the "yellow" bees. They remarked that they had, but not with good results, as they swarmed too much, and the honey they made was too thin.



The climate in the mountains is so cool that shade is not only unnecessary but detrimental.

The strangest thing with me about the honey in these cold mountains is that it is always cool, even during the time it is being made, and the thin nectar will drop freely from the comb as it is being handled. The temperature in the brood-nest is very low, and hardly noticeable by the hands.

In fact, I don't see how bees even exist in trees down in the steep ravines under cool overhanging rocks where the sun never strikes them, winter or summer. Yet in



I take pride in seeing how neat I can keep the yard.

such places I have cut rich trees and obtained over 100 pounds of honey, and it is so thick and rich in flavor as to excel any I can find elsewhere in these qualities. The fault is overcome here naturally that we have to contend with in our extreme southern section where it lacks a body. For years I have been "pulling" my hives open in

view of more ventilation. Plenty of fresh cool air through the hives is the very best thing I can do toward the betterment of the honey. Had I not learned this by actual experience, the above would substantiate the fact that bees need air and not heat in a closed hive.

Cordele, Ga.

## A FEW BEES AT THE CITY'S EDGE

BY H. E. HESSLER

Out of my 61 years I have kept bees 53 years. I believe that I was almost the first person in Madison Co., N. Y., although quite young, to purchase a Langstroth movable-frame beehive. I have never been in the bee business to make a living, but have always kept bees, and by some have been called a bee-fool. I would rather be called a bee-fool than some other kind of fool.

I have kept as many as 100 colonies and a little more. For the past 37 years I have been in the hardware and stove business at my present location, but always hung on to the bees. At one time I had thirty-five colonies on the roof of my four-story building where I am now doing business, and produced good crops of honey.

I did not dare to do too much extracting on account of being close to three churches, and, in fact, in a well-settled part of the

city. I have kept bees on city lots and had some little trouble now and then, but never anything serious. Generally the present of a little honey and good words settled up the matter. In a few cases neighbors who were very much against bees became interested and became beekeepers themselves.

At the present time I own a farm of about twenty-two acres, partly in the city and partly outside—that is, the city line runs through the place, which is known as Shady Side Farm. Here I have a very good place for the bees. I am not in it very heavily. I run about fifty colonies and take pride in seeing how neat and up-to-date I can keep the yard. It is mowed twice a week, and the lawn is as smooth as velvet.

The bees do not do quite as well, I think, as they would in poorer circumstances. I believe the bees realize that the master does





Not far away is the greenhouse.

not need their services. I am positively sure that this was the case last year, for in all my experience in the beekeeping business, last year I think was one of the poorest in this section, for gathering honey, that I ever saw, although I secured some comb honey, and put my bees into winter quarters in pretty good condition without feeding. Some of the beekeepers in this section did not do as well.

I use ten-frame double-walled hives. This present beeyard is directly opposite a large cemetery. There are a great many people

passing within a few rods—thousands of them. In fact, it is almost the same as being in the city—are lights, sidewalks, paved streets, etc. Many come into the yard and look at the bees, very often going nearer than they should with children. They go in past my beeyard, and within a few feet is my greenhouse where we sell flowers. I am yet to have a single complaint. My bees are thoroughbred Italians, but each one carries a sting just the same.

Syracuse, N. Y.

## SOME INCONVENIENCES IN A BEEKEEPER'S PARADISE

BY S. M. CAMPBELL

This is the beeman's paradise, but, of course, there is always some "bitter mixed with the sweet." We can go out in a big orange-orchard and look across waving fields of green leaves and ripe oranges and see trees that have five or six bushels of golden fruit. Just above them on the mountain-side we can see pure white snow. Early in the morning, when the sunlight makes this glisten and sparkle, and the oranges gleam with gold, it is indeed a beautiful sight.

When the orange-trees are in blossom one can shake the trees, and the "honey" will come down just like a shower of rain. It is not honey, of course, but nectar as thin as water, for it takes about five gallons of

the raw nectar to make one gallon of ripe honey. The bees evaporate the honey out of it and make it thick and delicious.

There are about 30,000 colonies of bees in this county, and the output is about ninety carloads of honey yearly, nearly all of which is shipped to eastern markets. Ventura County is mountainous, as, in fact, is all of this part of the state. The mountains vary in height from small hills up to mountains thousands of feet in height—some of them ten or twelve thousand feet high.

We had quite a trip last summer to one of the outyards about fifteen miles up in the mountains. A party of us started one morning about nine o'clock. Our "boss,"



Mr. R. M. Spencer, was with us on that trip. The only way one can get to this yard is on horseback, so horseback we went, and it was the hardest trip I have ever taken, to say nothing of the dangerous experience. There had been 23 inches of rain, and all signs of the trail had been destroyed. We had to wind our way up a river over big rocks that lay in great piles, some of them as large as a dwelling - house. We were getting along nicely, and had gone about six miles, when suddenly, without the slightest warning, our horses whirled around. Just in front was a rattlesnake six feet long. Mr. Spencer was in the lead; and when his horse whirled the saddle turned, and he was thrown to the ground squarely on top of the snake. He probably owes his life to the fact that the snake was uncoiled, and was probably as badly scared as the members of our party. Mr. Spencer was sure "on top" that time. We killed the rattler, and went on up between the mountains over some places that were so steep that we had to get off and lead the horses.

We finally reached our destination and found the bees in bad condition and the hives scattered all over the yard. A black bear had been there and had destroyed about 30 colonies. Apparently the bees had stung him, and he had slapped the hives to pieces in a number of instances. We straightened up the hives that were left, stayed all night, and started for home the next morning.

On the way home Mr. Spencer was again unfortunate. Crossing a bare steep rock his horse slipped and went down, and he was thrown into a hole with the horse on top of him. We rolled the horse out and finally rescued our boss. We had some trouble,



The new sweet-clover plant that A. I. Root found growing in a field of red clover; there was also common sweet clover in the same field. After spading up around the plant he threw some grass and weeds around it, as you will notice. See page 558.

believe me, but reached home at length; and the boss is here yet.

At another time we started for this yard with three days' provisions of canned goods. After a tedious ride we finally reached the yard and found there the same old story. There had been another bear, and 54 of the colonies were destroyed. About two o'clock that day it began to rain. We were rained in for several days, and we had to cut our bill of fare down to two meals a day, and these, of course, were very small in order to make the food last. You may be sure that we cut those slices of bread very thin.

The cabin was in a safe place, however, and there was about 400 pounds of honey





Three leaves of the common sweet clover and also three from the new plant pictured on the preceding page. These leaves are shown about three-fourths life size. See if you have any sweet clover growing in your vicinity with leaves as large as those on this new plant. See page 558.

which we decided to melt up and have it ready to feed the bees when the storm was over. The honey was granulated, and we had a time of it. This was good "man feed," too; but one gets tired of honey only, on a long stretch.

The empty cans had been thrown outside, and during the night we heard them rolling

around. The next morning the cans were scattered all over everywhere, and it was plain to see that a bear had been there again. Bears like honey too.

It was five days before we could cross the creek, and then we had to cross about twenty times.

Nordhoff, Cal.

## STEEL STAYS FOR SUPPORTING BROOD-COMBS; A SUBSTITUTE FOR FINE WIRES OR WOODEN SPLINTS

BY B. F. AVERILL

My experience in wiring frames for staving foundation began in 1879, when I first used comb foundation. I had tried the flat-bottom foundation with the wires incorporated in process of manufacture, and its utility failed to meet expectations. The idea occurred to me that *frames* should be wired, not the foundation. So I ordered a spool of wire and found the wired frames more satisfactory. I used three horizontal wires, 1, 2½, and 4 inches respectively, below the comb-guides.

In 1882 I accepted a managing interest in the South, with the late Paul L. Viallon, of Bayou Goula, La. The wiring problem there was a labor of some magnitude, and the plan of wiring in vogue was quite expensive—a folded tin brace in the center

between the top and bottom bars—eight perpendicular wires and two diagonal brace wires from the center of the bottom-bars to the corners at the top-bars.

Suggesting to Mr. Viallon that I could devise a method of staving foundation in brood-combs that would be more economical and sufficiently substantial he requested me to bring out something, saying he would be glad to find a plan that did not require quite so much patience and skill.

I gave an order for some splints 8½ x 1½ x 1-16, sawn from section stock, and put up a set of foundation and frames the next day. In a day or two I had a swarm hived on them, and a week later a set of drawn-out combs as pretty as I had ever seen.

Mr. Viallon pronounced the innovation



Our field of biennial yellow sweet clover. This was cut the latter part of May, just before it began to show indications of bloom; and although the hay remained out in almost half a dozen showers, and it was nearly two weeks before we could get it dry enough to store in the barn, our cows and horses prefer it to anything else; and the amount of cream and milk was quickly in evidence as soon as the cows got a taste of it. While I write, June 16, the field is one mass of yellow blossoms roaring with bees. To-day I went out through the clover-field pictured above. To my surprise I found patches of alsike clover of wonderful luxuriance scattered through the sweet clover, and both are in full bloom and humming with bees. But there were at least a dozen bees on the sweet clover to one on the alsike; and although I spent quite a little time watching the bees I was not able to find a single bee that worked on the alsike and also loaded up on the sweet clover, and *vice versa*. It was a pretty good demonstration that when a bee starts to gather honey it confines itself to one particular plant, and does not gather a little from one blossom and then get some more from a different plant. There may be exceptions to this; but in that clover-field, where there is a great plenty of bloom of both alsike and sweet clover, each busy worker seemed to have its own job and stuck to it. See Gardening Department.—A. I. ROOF.

an excellent idea, and said they were suited for general utility; but he could not make a departure from standard methods. With his shipping business of full colonies and nuclei such a change off hand would be almost too radical for consideration.

As soft lumber was used for these splints, results might not have been satisfactory. The bees gnawed the splints between bottom-bars and combs. Some of them were cut off entirely.

Here the matter rested until I was situated to use the splints upon my own responsibility. Four years later I was located in Bolivar Co., Miss., with a couple of apiaries of my own, and I had fully tested my method with splints in the mean time.

I used them there two seasons—1500 L. frames, and did not have a comb in the whole lot showing any imperfections. But these splints were sawn from oak lumber, and the bees did not gnaw them as they did the softer splints sawn from basswood in Louisiana. The bees do not gnaw the splints in the extracting-supers except in the brood-combs; and with splints of soft lumber combs are often much disfigured in the center of the brood-chamber. With oak, or lumber as hard as oak, the wood splints are, perhaps, equal to wire in durability.

Getting splints sawn from hard material was a difficulty, and I decided to pay the

additional cost, and use stays of soft steel wire. In 1907 I ordered 10,000 wire stays, and put over half of them in service. So far I have not regretted so doing.

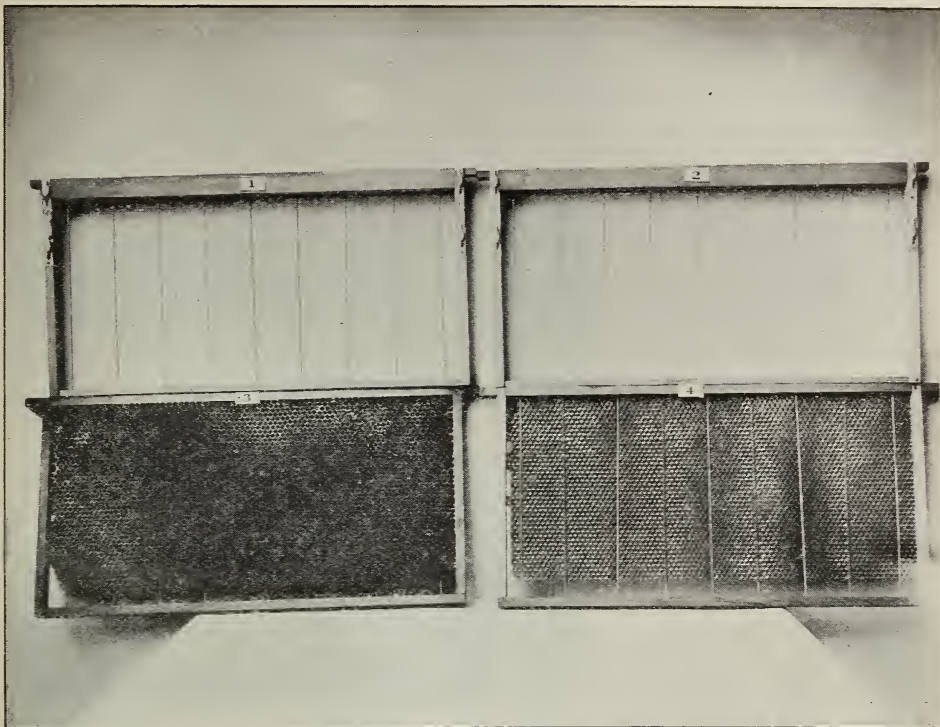
Some years ago I wrote an article describing in GLEANINGS my method of utilizing wood splints; and the same principle of application is correct for the wire stays. Inquiries having come to me then for further particulars, and thinking a picture might make the plan more explicit, I am illustrating four frames, numbered for a brief statement of their serviceability.

No. 1 is a frame showing the nine wires full length, as I generally use them. It is best to use a drop of glue at each end of the center wire. No. 2 is a frame with half-length wires as I used them for half-sheets of foundation. A call for hives, when I was putting them out on shares, and being short of foundation, was the occasion for using half-sheets to secure straight reinforced brood-combs.

The frames with half-length wires give ample support for full sheets of foundation; but for transportation before being worked out by the bees, the wires should be set in place with glue. By general adoption the double groove and wedge can be discarded, saving a strip of foundation the length of sheets in any dimension used.

Contact with the top-bars is requisite;





Stays of soft steel wire are superior to wood splints.

and foundation is so soon fastened when thus placed that no defective work is possible by the bees. With the center wire glued at the top and bottom, no sagging of foundation has ever occurred. When not glued, there is sometimes a slight sag of the bottom-bar, but never any enlarged cells caused by stretching of the foundation.

No. 3 represents a drawn comb; No. 4 a sheet of foundation as set up when placed in the brood-chamber or super. It will be noted that the wires in frame with foundation are placed on alternate sides. This is unnecessary as the adhesion is as perfect to the wires as when the foundation was set up in 1907.

The comb and foundation have been exposed to the changes of humidity and temperature since the cycle of three unproductive seasons, beginning in 1907; and out of all examined I found the foundations as firmly fixed to the wires as when they were first rolled down. In rolling, the wire should be underneath. This advantage of adhesive durance cannot be claimed for the 30-gauge wire now in general use. I have never known frames wired with this small wire that the apiarist did not have to reimbed frequently where foundation had not been given to the bees. Especially is this the

case with foundation put in frames in the fall, and not drawn out before winter.

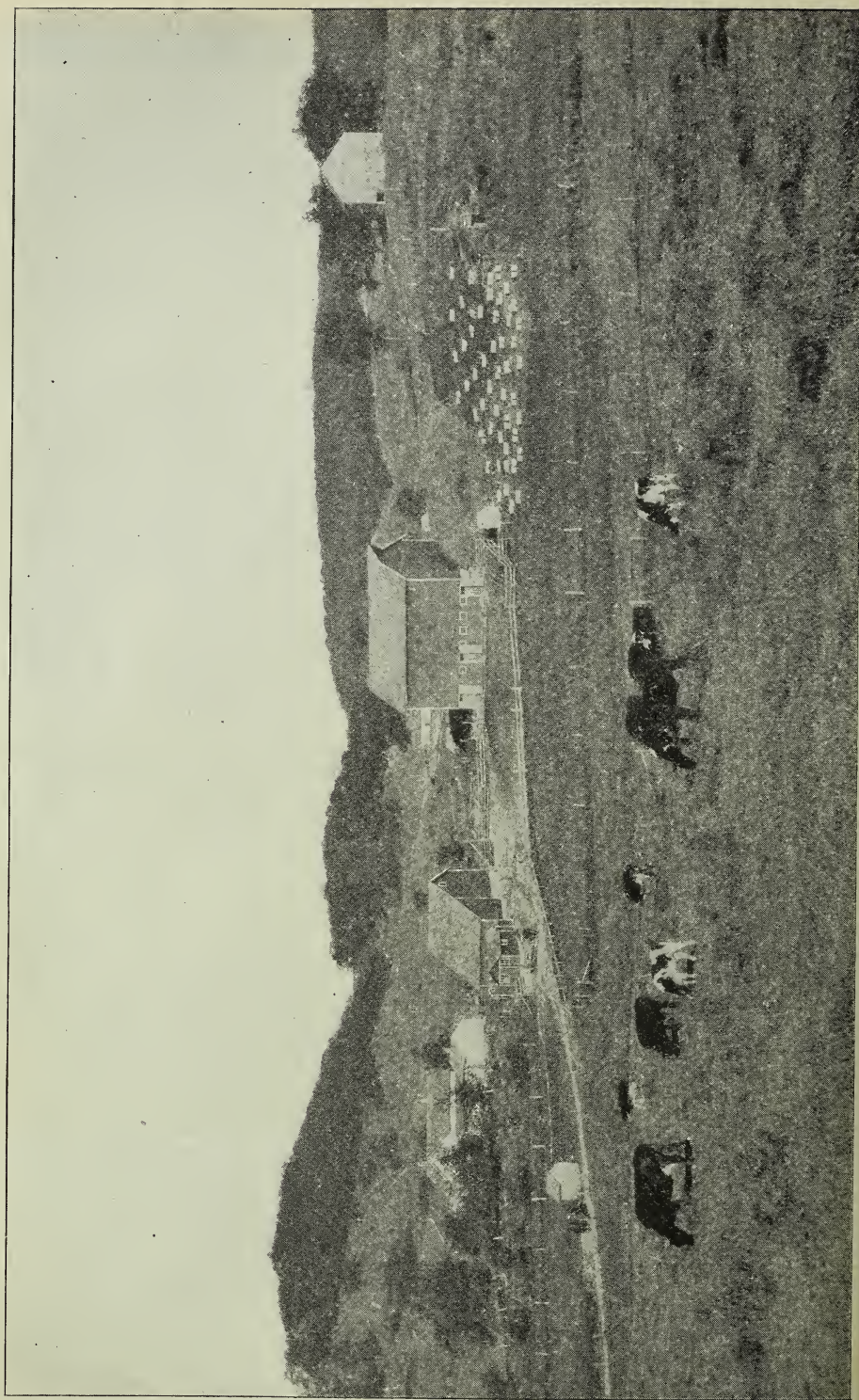
The advantages of the method described are the saving of half the time, and doing a job that will stand, and the saving of 175 inches of foundation in each 100 pounds used—175 inches in width, and the length of the combs used in the apiary.

The initial expense of wiring by the method described exceeds the usual cost by the present plan of wiring; but the saving of labor and foundation where the grooves and wedge are not used, more than offsets the added cost entailed by using the 16-gauge wires for perpendicular wiring.

As the bottom-bars in the illustration do not show any grooves I wish to explain that the wires engage in the groove  $\frac{1}{8}$  inch deep. In the top-bars, the grooves may be deeper. The comb and foundation, as shown, is in the frame with  $\frac{3}{8}$ -thick bars, and the depth of the grooves is  $\frac{1}{8}$  inch, top and bottom. On splints and wires I have never used wax. The queens would lay in the cells with wire at the bottom a little more readily at first if they were waxed; but after a few broods of bees are hatched in the combs these cells are not avoided by the queen in preference to the others.

Howardsville, Va.





On a hill facing southeast, the apiary is well protected from cold northwest winds.



## A HILLSIDE APIARY

BY OSCAR RITLAND

Our apiary is located on a hill facing southeast, where it is well protected from the cold northwest winds. In addition to this, during the spring months the hives are wrapped with tarred paper to prevent unnecessary escape of heat. On May 6, 1914, 91 per cent of the colonies had five frames or over of brood.

It is a nice thing to have an apiary located on a side hill, provided it is not too steep. When the grass is wet with dew one's feet are liable to slip and cause no end of trouble. For this reason, if it is too steep, it would be advisable to locate under a hill.

One can save space by locating the hives in pairs. If it is desirable to use the Alexander method of building up weak colonies one can set the strong ones alone at first. Then when it is time to separate the two, the one on top can be set down beside the other side, thus becoming its partner. If the entrances are set on each side of where the old entrance was, each will receive part of the flying bees.

I have had the trouble that, when one hive was moved to a new location, too many of the field bees went back.

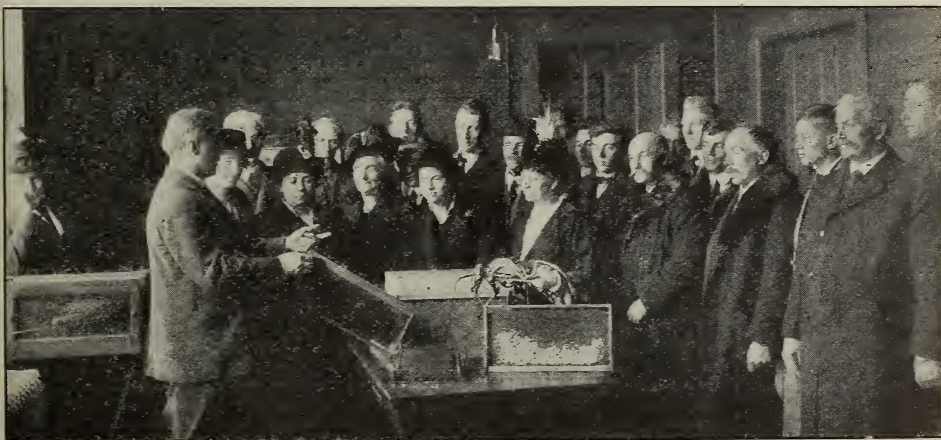
Elroy, Wis.

## THE MINNESOTA SHORT COURSE IN BEEKEEPING

BY FRANK C. PELLETT

It was my good fortune to spend two days at the short course in beekeeping at the University of Minnesota in January. It does one a world of good, sometimes, to get away from home for awhile to see what the other fellows are doing. I feel very sure that the short course was a surprise, even to the enthusiastic fellows who are respon-

teous, assured the beekeepers that there was no demand for anything of this kind. They were mistaken, as they are now able to see. Under the leadership of the association president, John Doll, and the secretary, Dr. L. D. Leonard, they went before the legislature and asked for recognition. Not only did they ask that beekeeping be taught, but



At the University of Minnesota the interest in beekeeping is unflagging.

sible for the advanced ground taken in Minnesota.

The department of beekeeping is recent history. The beekeepers' associations of that state have been asking that beekeeping be taught in the university along with dairying and other lines of agricultural activity. The university authorities, while cour-

teous, demanded that it be given the same consideration offered other branches, and that a separate department be organized.

It seems surprising that great universities should so often have to be led, instead of leading, as they are designed to do. The legislature granted the demand of the bee-men, and the department was established.

Prof. Francis Jager was selected to head the department, and entered upon his duties only about two years ago. The choice seems to have been a very fortunate one, for Prof. Jager has the most loyal and enthusiastic support of the association and the beekeepers generally. A substantial increase in funds for the department for the coming two years is provided for in the University budget.

The big surprise, not only to the college officials and to the general public, but to the beekeepers as well, came when, at the short course recently held, the class in bee-

keeping was larger than any other in the entire university. Seventy-eight persons registered for the course, and nearly one hundred were in attendance at some of the classes. The interest was unflagging, although Prof. Jager was kept busy with classes continuously from eight in the morning until five in the afternoon, some days.

When the college officials of other states, or members of the legislature, tell the beekeepers that there is no demand for anything in our line, just point to Minnesota.

Atlantic, Iowa.

## WHO PAYS THE FREIGHT?

BY J. M. DONALDSON

We were passing a large grocery in the city when we noticed a very fine display of comb and extracted honey. The comb was in Danzenbaker sections, and would all grade "Fancy," price 25 cts. The extracted was a good grade of light honey, and was put up in a very neat container. It was also 25 cts.

I said, "Bill, it's not often you see as nice a display as that."

"That's true all right; but do you know I don't blame the city chaps for not using more honey? The price of those sections is not so bad; but when it comes to paying 25 cts. for a jar of extracted like those, then I renig. My honey was much nicer than that, and all I got for it was 7 cts. I don't think those jars will hold more than 12 oz. of honey. They are marked 11 oz., and they are cheap at that price. Have you any idea of what it costs to put up a package like that?"

"No, I have not; but with your experience you should. Now listen, Bill," I added, "the fellow who bottled those goods probably paid 7½ or 8 cts. per pound to the beekeeper. Now, before he could set his selling price he must add to the price of his honey, freight and carting charges, the price of his bottles, corks, caps, labels, and packing-cases. Then there comes the wages, rent, insurance, business tax, and interest on money invested. He must also make allowance for bad debts and breakage. Bottlers are not in business for their health; so he must figure on a little profit. After the bottler comes the jobber, then the retailer. They get their profit. There in the window are the goods, waiting for Mr. Consumer to foot the bill."

"I will admit that, when you take those things in consideration, I cannot see where

there is as much profit on those goods as I thought there was; but here is what sticks me—what sense is there in using such a costly package? Why not use tin buckets or Mason jars? Then they could give the consumer more for his money."

"There are several reasons. Just look in that window. There are sauces, pickles, jams, jellies, meats, and even fish put up in fancy glass jars, and some of the jars cost more than the goods they contain. You know that a great many people choose their food, first by looks, then come quality and quantity. Fancy packages are what they demand, and those you must give them.

"There is another reason why you could not use Mason jars or tin pails. Grocers will not handle packages that are daubed with honey, nor do they want it granulated. Those jars are sealed air-tight, and are never sticky. The honey will remain liquefied for a long time."

"How is it that you can sell honey that way if the grocers can't?" he inquired.

"That is easily explained. I am selling direct to the family trade. My honey is consumed before it has time to granulate. Then I explain to each new customer that honey will granulate, and why it does. I also tell them to keep it in a warm dry place."

"Say, Donaldson, be honest about this: can't you sell a little cheaper than you do? At 50 cents a quart, allowing you 5 cts. for the jars, that leaves you 15 cts. a pound for the honey, and you know you could not get that price if you sold wholesale."

"I know that," I replied; "but let me tell you that when I have to bottle honey and retail it at wholesale prices I'll quit the business and devote my time to something that will pay. If I do the bottling and re-





Two characteristic views of the honeybee on white clover, the first showing the bee in the air about to alight on the blossom; and the second, taking the nectar from the outside. Note the path or motion of the wings in the first picture—wings at rest in the second.

tailing I consider that I am entitled to the profits. Of course, my expenses are not as heavy as the city bottler and retailer, so I can split the difference with my customers, giving them more honey for their money. There is a more important reason for charging the price I do.

"If you are going to cater to a family trade you must be able to supply it every year and all the year. You cannot supply it when you have a crop, and let them go when you have a failure. Where would I have been this year if I had been retailing at wholesale prices? I did not harvest one pound of honey; and when I should have been piling on supers I was feeding from three to four hundred pounds of sugar to keep the bees alive, and living in hopes that the fall flow would put them in condition for winter. Last season was a bumper crop, and I had quite a lot left over, but not nearly enough to supply my trade.

"Now you see where the bottler and retailers' profits come in, don't you? They put me in a position where I can buy and sell at a profit, and hold my trade too.

"Now, Bill, you have been telling me of things you don't understand, so here is one for you. When my honey began getting low I sat down and wrote to sixteen beekeepers who were advertising honey for sale. I asked them to quote their price on honey delivered at their station, the sale to be cash with the order.

"I received twelve replies, and every one of them asked from  $1\frac{1}{2}$  to  $2\frac{1}{2}$  cents per

pound more than the market price. What kind of business do you call that?"

"Well, I should say it was mighty poor business, with the emphasis on the poor; but where did you get the honey you are selling now?"

"I get it from a packer. It is very nice too. It's a blend, but it just suits my trade because that is what they are used to."

"Don't you suppose I could sell quite a little honey where I live? If you can buy and sell at a profit, why can't I?" he queried.



"How doth the little busy bee  
Improve each shining hour!"

"You can if you do a little talking. Since you asked that question I must tell you a little joke, and it's on you too. I was over to your town last week and made quite a few sales. I sold to eight families on the street you live on. When you go home to-night ask your next-door neighbor (Mrs. Gaskill) how she likes Donaldson's honey."

"Look here, old man; you are getting too fresh," Bill exclaimed. "I am going to make it my business to see that you don't do that again."

"Well, that's business. See that you don't forget it."

If beekeepers would devote as much time and study to marketing as they do to producing a crop, there would be less cause for

grumbling about the market price of honey. There are many who live in thickly populated districts who, with a little effort, could retail their honey for much better prices than the market quotations; but instead of doing so they keep on shipping into the cities, paying freight, commissions, and cartage. When their returns come they will growl about the difference between what they received and the retail price.

I often wonder if such beekeepers ever stop to consider what the added cost of honey is, from the time it leaves the apiary until it reaches the table of the consumer in the cities.

Moorestown, N. J.

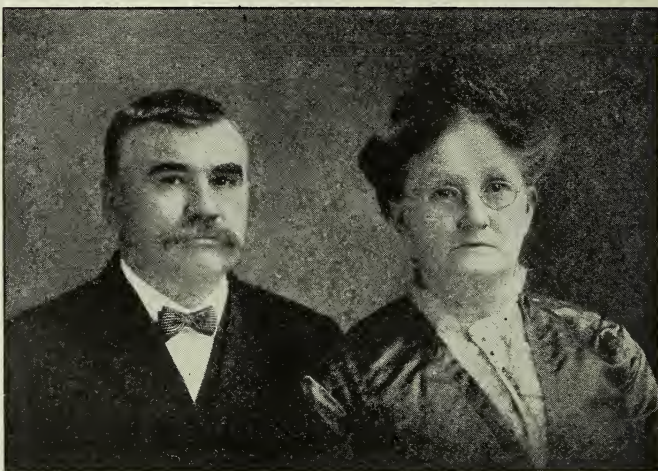
## BUSY BEES OF BEEVILLE

BY J. W. TAYLOR

We have worked up from five colonies in 1884 to about eleven hundred at this time in eighteen apiaries, all of them two to sixteen miles from this city in nearly every direction. We work our queen nuclei up to full colonies to winter, and start new ones every spring. I, my son, and a hired man take care of all the work in connection.

We work for bulk comb and extracted honey, and we have made a specialty of breeding for the best honey-gatherers.

Beeville, Tex.



Mr. and Mrs. J. W. Taylor.

## BEES AND THE YOUNG IDEA

BY J. L. GRAFF

A colony of Italian bees has been installed in the biological laboratory of the high school at Holland, Mich. The bees are to become an object of study to the biological class during the whole of the school year.

They have been hived in a case with glass sides, and during the bloom season they will be located at an open window so that they may go and come at will.

The study will be in charge of a young woman teacher who is informed on bee culture. It is a movement that should interest

not only every apiarist in the land but thousands of people who should be eating honey if they are not.

It is particularly interesting to all Michigan, the land of bloom, and to the people of other states in which there is an increased spread of crops that afford work for bees and profit for their owners.

The experiment at Holland is being watched by varied interests, among them the men and women who appreciate the pollination agency of the honeybee.

Chicago, Ill.



## AN ELECTRIC BARREL-FILLING INDICATOR

BY G. W. HAINES

When I started in beekeeping as a business I soon learned it was a hard dirty job, as well as a rather expensive one, to allow a honey-can to run over. So I rigged up the scales at each apiary with an electric bell to ring every time the scale-beam raised.

The weight was set to equal that of a full can. When the beam raised the bell rang and shut down the honey-gate. This worked to perfection for several years; but since my apiaries have outgrown the small cans I could not set a 600-lb. barrel on the scales. I soon found the old trouble. About 25 lbs. of honey would run down over the barrel and over the floor.

I sat right down and said to myself, "I will have a bell on that barrel." I got through the season by running over two more barrels. During the winter I made an electric outfit for each apiary. It hooks in the bung of the barrel, set in the hose or funnel. When the liquid gets to within  $2\frac{1}{2}$  inches of the top it raises a wooden block or cork, working on the same plan as a battery

switch, making a connection, and the bell rings. A heavy cord hangs over the extractor, attached to the blades of a small switch and to a hole bored in the end of the handle of the honey-gate. When the bell rings I pull on the string. The switch stops the bell ringing, and shuts down the honey-gate. Then I change the barrel for an empty one. I have several honey-tanks that hold a ton each. I hook an electric device made a little differently from the one for the barrel to the top of the tank. When the liquid is about four inches from the top it raises a wooden float-block, makes a connection, and rings the bell. I have spent considerable time looking to see if a tank was full. You all know it is well worth \$2.50 to clean up about 25 lbs. of honey spread over the floor.

The outfit requires a roll of wire, electric bell, dry cell, small switch, and the device for the barrel or tank.

Mayfield, N. Y.

## CHUNK HONEY ADAPTED TO CAFETERIAS

BY THE OUTLAW

It is a matter of common knowledge that bees do their best when the cluster is least broken up. The ordinary comb-honey section has this fault of breaking up the cluster. Sections also have to be bought in quantities, and there is also the expense of the furniture for the supers. In my own case with one colony of bees hidden away on a roof, it naturally follows that the idea of purchasing sections and making super furniture did not appeal. I might also state that I have a natural aversion to paying out real money where satisfactory results can be obtained without making any investment. The solution was to have the surplus honey stored in ordinary shallow frames made from the wood of boxes in which the city grocer is in the habit of delivering groceries.

In my own apiary during the past season my one colony of bees, besides being increased to three colonies, produces for me approximately 150 pounds of honey, and the only outlay was the few moments' time it took to make the frames and supers from the material just mentioned. The average weight of such frames was between three and four pounds. It is not the claim here that such frames of honey are superior to

sections, but I do claim that such frames of honey can be produced with but a very small fraction of the time and trouble involved in producing honey in sections; that, if properly manipulated, more surplus honey can be produced; that the honey is much more conveniently handled; and that the small amount that such city apiarists have can be just as readily disposed of as if it were in sections.

In place of having to expend real money for sections and fixtures, whose initial cost will amount to the value of the crop received, his expenses are nothing. Such frames of honey as a present to your friends (and here I speak from actual experience, having disposed of about 30 per cent of my crop in this way) are preferred to a section; the reason being, perhaps, that a section holds a scant pound while the frames hold about four times that amount.

At first I was a little bit dubious about being able to dispose of such frames of honey, as the average grocer having become accustomed to honey in sections would not take kindly to such cumbersome frames, neither would the average person who has become accustomed to buying honey one section at a time care to purchase as much

honey at one time as such frames contain. In fact, the thought of disposing of such frames at any regular market, or the thought that such a market existed, had never occurred to me until one noon, while making the daily round at lunch time through the food avenue of a cafeteria I noticed that among the desserts resided a row of saucers, each of which contained a portion of comb honey.

I could see no special reason why a cafeteria should desire honey in sections, and so took the matter up with the manager. He said he would as soon have the honey in such frames as I had as in sections, and was

willing to take whatever amount I had, and pay the same price per pound as he was in the habit of paying for sections. I might further state that, from my observation, the cafeteria here on the Pacific Coast has been to a certain extent neglected. Probably only about one in three of the large cafeterias is in the habit of keeping comb honey as one of the desserts. Apparently a little missionary work is necessary, and if some live salesman took it upon himself to do a little work here in the cafeteria belt of the Pacific Coast it ought to result in the developing of a good healthy market.

## PUSHING HONEY SALES WITH ADVERTISING

BY JOS. BRUNSTEIN

I came to this blessed country on July 7, 1913, and, knowing beekeeping, I found a job where I worked hard to get acquainted with American systems. When the season was finished I lost my job, owing to my leaving to take up a homestead. Coming back to Denver I could not find work, so I

ed to peddle honey at groceries, with a capital of \$100. It was hard to induce some of them to keep honey, as they told me they had no demand for it; but in time things looked better. I gave to each grocer display cards, and promised to exchange the candied honey for new. Before Christ-



I worked hard to get acquainted with American systems.

went to a honey firm and asked the manager to allow me to solicit orders for them by the retail trade on a commission basis. He explained to me that they are doing more of a wholesale trade, and he could help me by selling honey which I might resell to the retail trade.

I began to investigate; and, seeing that there was a chance to make a living, I start-

mas I inserted small advertisements in the newspapers, like the following: "If you want to have a sweet Christmas holiday, order a gallon of Puritas honey, which will be delivered to you." I got some orders from it too.

But I saw that the Denverites are more used to the canned syrups and molasses, and were consuming honey like a drop from a



big barrel. On this account I began to look for ways to get them more acquainted and interested in what honey is.

Putting an advertisement in the Sunday edition of the *Denver Post*, one of the largest and most popular papers in Colorado, I got as a premium for my paid advertisement a saucer. Later I learned that this paper is giving away on each Saturday from 4000 to 5000 premiums for paid advertisements in the Sunday paper.

I went to the business manager and had a talk with him. He was busy, and told me to call the following week, and so on; but I kept coming till I had a chance to talk it over more freely, and to give him a jar of honey to taste. He promised to give me a chance, and I was satisfied with this inter-

view, as I knew he would like it. The next week I got an order for four thousand jars of honey.

In this way I accomplished something more than by advertising in the newspapers. The reason I did not advertise more was the lack of capital; but, as experience taught me, honey is not advertised as much as it ought to be. This could be very easily accomplished by some writers in giving to the editors of big city papers and country newspapers, home journals, and magazines, articles on the honeybee, and how honey is produced, making nice little stories of it.

Next fall I hope to sell more honey, and the summer I shall spend with the little creatures.

Denver, Col.

## JOLTS AND JOTTINGS

BY E. F. ATWATER

GLEANINGS for Jan. 15 touches on a number of items that interest me, and so I give a few points gained from experience.

In Dr. Miller's Straws it is quoted that, in labeling glass, we should put the paste on the glass. We have labeled thousands of bottles for honey, and can beat that for speed. Simply buy gummed labels—no paste to make, no time to waste, and they stick. It is only on tin, which is usually a little oily, that there is any trouble.

Don't rely too much on combs fresh from the extractor not being moth-eaten. They may not be completely consumed, but they will sometimes be ruined. Even full combs of honey are not safe.

In his last Straw Dr. Miller says, "Please, Mr. Editor, don't say a V starter in a section is a satisfactory compromise. It's false economy. The bees will fill out with drone comb; and unless you use excluders, the queen will go up and fill out your sections with drone brood."

For many years Dr. Miller has qualified the above assertion by saying that the queen would go above unless there were plenty of drone comb below in the brood-nest; but it seems that queens are becoming less circumspect, and now will naughtily go above anyhow—except in this locality.

Dear beginner and respected veteran, use a half-sheet or V starter with a bottom starter, if you must economize; for in my experience and observation not one queen in a hundred, on the average, will go above to lay, regardless of the presence of drone comb below. We have used hundreds and probably thousands of supers with a con-

siderable gap between the two starters. Most of the extensive producers whom I have visited do the same, either regularly or at times when they run short of foundation, and there is very little trouble. With the increased use of ten-frame hives it is even less probable.

Of course many seasons such a plan may not be true economy; but even that is a question in the West, with its 10 and 12 per cent money.

Some very careful experimenters, extensive producers, doubt the advantage of full sheets in the sections; and while I am not among them, yet they get very good results.

In Mr. Crane's Siftings reference is made to the new way of making chaff division-boards. Could not oiled corrugated paper, cloth covered, be used?

In Mr. Holtermann's excellent article, mention is made of the use of tartaric acid to prevent granulation of syrup. Some have reported failure with its use; and in this connection, I have understood that the object of the acid is to secure partial inversion of the sugar, and that inversion does not take place so much by the mere presence of the acid as by being boiled with the acid for some time. It is possible that, by so doing, the syrup will much more nearly approximate honey in its composition, and be far less liable to harden in the combs.

In Mr. Baldwin's article reference is made to the old plan of rolling a queen in honey for introducing. I have had an occasional failure, even by this method.

In Mr. Wilder's article on Caucasian bees it reads a little queer to be told at the last



Prominent beekeepers of New Zealand were present.

that he has over 1000 colonies of pure Italian queens and that he will add to them. With all the advantages claimed for the Caucasians, why should Italians, even though excellent, be tolerated?

In regard to Mr. Miles' article, "Fighting the Ant Invader," I have been quite successful by running an iron bar into the nest, sprinkling a gallon of coarse salt in and on the nest, and throwing a pail of water over it. The ants usually leave before long.

In Heads of Grain Mr. I. Langstroth asks for reports on ventilated escape-boards. They work as quickly as any, and are very satisfactory.

Mr. J. S. White gives his plan of wiring, which is substantially what we call the

"Chantry method" here. We drive a  $1\frac{1}{4}$  nail through the top-bar, and bend the end to make a hook to which to attach the vertical wire. We have thousands of frames so wired; but unless waxed over where the wires cross, bees may gnaw a hole there, which may not afterward be filled.

This plan stops sag in the middle, with splints necessary; but I may abandon it, as it is not adapted to electrical imbedding.

I agree with Mr. O. Bromfield in his condemnation of splints, after using tens of thousands of them. If one can get perfect combs built over them, they are O. K. used in five-inch lengths in connection with wires; but—there's the rub.

Meridian, Idaho.

## FIELD DAY OF CANTERBURY BEEKEEPERS

BY E. G. WARD

The annual field day of the Canterbury Beekeepers' Association was held on Feb. 20 at Dr. Pairman's apiary, Governor's Bay. About fifty people attended. The weather was ideal, and the trip by motor boat was thoroughly enjoyed. Prominent beekeepers were present from other districts, and addresses and demonstrations occupied the time profitably.

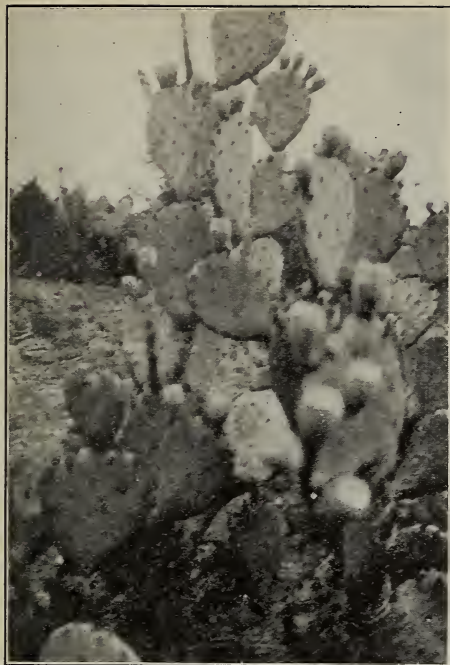
Mr. L. Bowman, government inspector of apiaries, examined a hive which had been treated for foul brood by Dr. Pairman on lines similar to the Baldrige method. The treatment was found to be successful.

A paper by Mr. W. E. Barker on "The flora of New Zealand in relation to the honeybee" was much enjoyed. It showed how valuable the native flora is to the beekeeper.

The president, Mr. E. G. Ward, gave a short address on the aims and objects of the association, and appealed for contributions of honey in aid of the poor of Britain and Belgium.

Mr. R. W. Brickell, secretary of the National Beekeepers' Association, was present, and gave a detailed account of what was being done by the National Association to improve the conditions existing. He ex-





A wild spineless cactus found in Texas and Mexico, showing both fruit buds and slabs. See p. 556.



Common cactus growing wild near Laredo, Texas, and also over the line in Mexico. See page 556.

plained the details of the contract entered into between the Bristol and Dominion Producers' Association and the New Zealand Honey-producers' Association and the Government regulations dealing with the export of honey. The contract insures that a minimum of 100 tons and a maximum of 500 tons of honey be guaranteed a market for a period of three years at a satisfactory price. The local market will be relieved,

and much better prices realized in consequence.

Mr. A. Ireland explained what the Canterbury Association had done to help the movement during the last three years, and did some energetic canvassing for the co-operative association.

After the customary votes of thanks to the host and hostess the party left for home.

St. Albans, Christchurch, N. Z.

## THE DARK AND BRIGHT SIDE OF FOUL BROOD

BY G. C. GREINER

In recent years the subject of foul brood and its treatment has been so many times and so thoroughly discussed that it almost seems like a waste of time to say more about it. The only excuse that might justify a reopening of the subject is the fact that the experience of passing years brings out occasionally new features—something that has not been spoken of before. At the same time the constantly enlisting recruits in the reading circles of our bee-periodicals, who had not the privilege of following up these discussions of former years may look for just such information.

Before I had the misfortune to fall a

victim to that dread disease the simple word "foul brood" sent a thrill of terror through my veins. Although I was prepared for the combat; had read everything our bee-magazines had published for years on this subject; had studied the bulletins sent out by the Department of Agriculture of New York; had new clean hives with the necessary outfit on hand, and had ordered my queens, still the uncertainty of the outcome, whether foul brood could be successfully eradicated or whether it meant the end of my occupation as a honey-producer, was anything but pleasant. But since I passed through the ordeal four years ago, and since



Another view of the common cactus showing a growth higher than a man's head. See page 556.

I have found by experience that the foul-brood trouble is not as serious as it appeared at first, I look at these things in a very different light. It is an easy matter for the alert beekeeper to keep the disease under control. In spite of being surrounded by foul brood we can raise as good paying crops of honey as we did before the disease made its appearance; and I go even one step further, and say we can raise better crops than we ever did.

To keep control of the disease it is necessary that the beekeeper know the condition of his bees at all times. This requires constant watchfulness and inspection. Bees must be examined at regular intervals; and by doing so he may see things that require his attention which otherwise would be passed unnoticed. Although I have great faith in Italian queens as foul-brood resisters, they are not positively proof against it. Now and then a slight attack will reappear, and every queen that allows the least indication to take a foothold in her colony should be replaced by another, either home-bred from the best queen in regard to honey-gathering proclivities and immunity from the disease, or else purchased from a reliable dealer's guaranteed stock. This in turn will have a tendency to improve our

stock, and consequently increase our crop. Slightly affected colonies of Italian queens can be cured by the caging process; but the disease is liable to reappear again, and for this reason it is safer to supersede them with more reliable stock.

To say that foul brood is a blessing in disguise may be a little exaggerated; but there is certainly one good point about it. It has a tendency to clean out some of these one-horse concerns generally termed farmer beekeepers. They are no benefit to the honey industry. In some out-of-the-way place along the backyard fence, hid by grass and weeds, they keep a few colonies of bees, expecting to raise a little honey for their own table. In the spring, or during a honey-flow, they may supply their bees with the surplus appliances they consider adequate for the season; but after that they pay little or no attention to them. They are never examined, and are left to fight their own battles. If they are free from disease, well and good; if not, just the same. For all the owner knows, his bees may be rotten with the disease, weakened down to a mere handful, or possibly gone entirely, and their hives a prey to the robbers of other apiaries. Thus they become a constant menace to neighboring beekeepers who are trying to keep the disease among their own bees under control. This state of affairs may not be entirely the fault of these farmer beekeepers. They do as well as they know how and as their situation permits. Just at the time bees need the attention of their keeper the most, farmers need every minute of their time to see to their haying and harvesting or other necessary farm-work, and it is only a natural consequence that their bees have to be left to shift for themselves.

In the fall they gather up whatever their bees have accumulated in the line of surplus honey. Frequently, in favorable seasons, it is more than they need for their own table, and the surplus is taken to the market, where it again becomes a menace to the professional honey-producer. Not having the time or ambition to prepare their little crop properly it is brought as it is taken from the bees. Unsorted, uncleaned, and unprotected it is placed with a load of garden truck in an open wagon. Dust and dirt have free access to the honey; and by the time it arrives at the market it is anything but an inviting, appetizing morsel. Not knowing anything of the ruling market price, and their fear of not finding ready sale for it, they offer it at two, three, and even five and six cents below the price properly put-up goods would demand. To a



certain extent this establishes a lower market price. I have had people call at my wagon, and, after inquiring the prices of my goods, would say: "You ask too much for your honey. Your neighbor down the line asks only so much."

As I never do any bantering, but uphold my established prices, I generally advise them to buy wherever they deem it the most profitable. Some, of course, leave me and go back to that cheaper neighbor; but the majority, who are observing enough to notice the superiority of my stock, would pay my price.

Annoying as it is to have these outsiders tamper with a business they do not understand, their slipshod management does not seriously interfere with my plans. I do not wish to be selfish, nor deny others the privilege I enjoy. On the contrary, I am always willing to let others profit by my experience. As far as I am able I am ready to assist by word and actual demonstration

whenever I am called on to do so; but for the benefit of the professional honey trade, to raise beekeeping to a higher standard, the cleaner the sweep the better.

As an additional foul-brood report I will say my bees were free from the disease the first two years after the treatment. A couple of stray black swarms that had taken possession of empty hives the following year developed the disease in moderate form. Their queens I promptly superseded with Italians, which cured them permanently. Last summer I again noticed three slightly affected colonies—at least I suspected them. I applied the different treatments to all three. To one I gave a new queen. The queen of the second I caged for ten days, and four brood-combs of the third, that showed the least indications, I moved into their extracting-super. All were cured for the remainder of the season.

La Salle, N. Y.

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## WHERE STIMULATIVE FEEDING DOES NOT STIMULATE

BY E. S. MILES

I don't like the term "stimulative feeding," since to me it seems misleading. My experience is exactly like Dr. Miller's. When the bees want brood, and have honey on hand, they will feed what they have, even if nothing is coming in; but, of course, if none comes for a sufficiently long period, brood-rearing will slack off and finally cease altogether. Bees appear to distinguish between fall and spring; hence when the final stop to gathering comes in the fall they seem to know that stores may be more important than a few more bees. Unless there is an abundance of honey on hand they may let some brood perish.

Let me try to tell how my bees do in spring. When first set from the cellar all queens will lay a patch of eggs, even if nothing is to be gathered. If there is old pollen and honey in the combs these eggs will be hatched and the brood reared. If there is an abundance of old pollen and honey, the queen will keep on laying until she has all the brood the bees can protect on cool nights. Now, so long as my colony is in this condition nothing can be gained by feeding; so it follows that the phrase "stimulative feeding" is misleading.

My bees will always do as outlined above; and if I had any that would not I would surely part with them and get some that would. But suppose no stores come in, and the first brood emerges, the colony gets

stronger, and can cover more brood. That is something I have never known; for, within the time of setting from the cellar, and the first brood emerges, there always comes bloom enough of some kind to furnish some new pollen and honey. The coming of additional stores allows the bees to enlarge the brood again to their capacity for keeping it warm.

Of course, if one prefers he may call this gathering a "stimulation" and be correct; but it should be borne in mind that there is "a time for everything under the sun." If we had the condition suggested above, where the colony could cover and mature more brood, and if more were desirable, and if pollen or a substitute were available (notice the ifs), and if old stores were running short, what would we do? I would feed. To stimulate brood-rearing? Well, you could call it that if it makes you feel better; but I say to myself, "The bees are running short of stores; they are becoming economical; and if I let them practice economy now, may be I'll be compelled to do so later." •

So I practice what I call "doping 'em up." Put on a feeder and feed them till they feel rich and fat—that is, unless I am morally certain a flow will start up within a day or two. In such a case I feed them enough so that, if I were in their place, I wouldn't worry if I thought it would rain

for two or three days. Now, what will be the result? The queen will immediately enlarge the brood to the ability of the bees to cover, as at first, and the bees will mature the brood so long as there is no need of feeling economical.

Why not a little warm syrup every evening, after the good old orthodox way? Well, that's all right with a few hives or one yard, if you would prefer doing it a little at a time and just at dark, so the bees will not fly. But if you have more than you can feed at dusk, why make every colony go through the excitement, wearing themselves out trying to find something every time you feed? Save time and bees by "doping 'em up" all they will need at one feed. What if you give them too much? Well, in my locality, with my bees, that would be just right.

You'll be surprised at the way it will be turned into brood in the spring. Of course, now, you know that if a good flow from

fruit-bloom, willow, or if clover is likely to yield soon, you wouldn't "dope 'em up" so heavily as to have syrup left to go into the supers—no danger, probably, of this before fruit-bloom; for with plenty of room the right kind of bees will use up any surplus of stores after fruit-bloom and before clover.

To recapitulate: In the spring bees will mature all the brood they can keep warm, if they have plenty of stores. If they run short enough to cause a slacking off of brood-rearing, give them feed, and give them plenty of it, for best results. If you wish to call this "stimulative feeding," good, although the idea should not be entertained that the brood-nest can be enlarged indefinitely in early spring simply by a little feed given regularly. Dr. Miller is undoubtedly right in holding that this idea in the head of an inexperienced person might do more harm than good.

Dunlap, Iowa.

## INDIANA NOTES

BY S. H. BURTON

Prospects for a honey crop are anything but encouraging in this or "Hoopole Tp., Posey Co., Injany." The cold backward season has retarded brood-rearing, and bees are very light in stores. It looks now, June 1, as if I would have to resort to feeding—a condition never heard of before in this locality.

White clover is just beginning to come back. Patches of it can be seen along the roadside, and a few blooms scattered over the meadows. As predicted in a former article, it will be some time before this section of the country produces any white-clover honey.

Bees have worked freely on yellow poplar between showers; but the rainy weather has spoiled the prospect from that source.

I am in love with the gray Caucasians. They are unquestionably the gentlest bee I ever handled; and as to breeding I will say you just ought to see a colony that was started five weeks ago. A queen was put on two frames of Italian brood with about a pint of bees, and to-day that colony is nearly as strong as any in the yard. I have opened it many times without gloves, veil, or smoke, and have yet to receive the first sting from them. After handling a cross race of Italians that will fly at my hand by the hundreds when passing it over the brood-frames, it is a pleasure to work with the gray Caucasians.

What is it worth to transfer a colony from a tree into a hive if the owner of the tree falls it for you and helps cut the log open?

There are a good many drawbacks to the Alexander plan of making increase. It is conducive to swarming, and fails to attain the desired end at times. I have had bees refuse to start queen-cells in the upper story with the queen confined below.

The plan I like best is to divide the colony, placing the nuclei on the original stand with or without the queen, and placing the original colony beside it. After both are started again nicely, remove the old colony to a new location.

I don't like brood-frames made from California redwood. The wood is too brittle to do a neat job of wedging in foundation, and the wood is inclined to sliver and split easily.

Washington, Ind.

### Intensive Farming

They used to have a farming rule  
Of forty acres and a mule.

Results were won by later men  
With forty square feet and a hen.

And nowadays success we see  
With forty inches and a bee.—Ex.



# Heads of Grain from Different Fields



**The Backlot Buzzer**

*Ain't much to say under this picture other than to just let 'em swarm.*

## Shipping Bees to British Columbia

According to the terms of one of the classes of our foul-brood act, all bees imported into British Columbia are quarantined for nine months at the point of entry. The transportation companies, to protect themselves from a lot of trouble, refuse to accept bees for delivery in British Columbia. Shippers in the United States and Eastern Canada will find it wise to turn down all orders from this province.

Queens in cages are admitted at present, but every beekeeper has been advised to buy only from breeders who can show a clean bill of health from an inspector.

To-day British Columbia has fully one thousand beekeepers, mostly beginners on a small scale; but as the inspectors become acquainted with its immense territory they begin to believe that the province will at no distant date march into the front rank as a honey-producer. Our government is guiding the efforts of every one in the industry, and our progress is very rapid. We cut down our importations of honey last year by 58 per cent, and trebled our home production. Our primeval forests are literally full of honeybees in the settled districts, so there is no excuse for anybody wanting to import from other regions.

The inspectors' job is to keep this huge area free of foul brood. We have had four attacks in five years, all traceable to imported bees. I am fighting the last and most serious. It originated in the city of Vancouver from imported queens, and was carried to a couple of other points by unlucky purchasers. Last fall I found American foul brood in 20 apiaries, affecting 45 colonies, all of which were burned.

We make no pretense of curing the disease in British Columbia. One diseased cell condemns the hive to the flames. Now that I am in the fight I endeavor to trace the spread of the contagion, as all information is valuable. Here is one point I discovered: In one apiary of five colonies I found one affected. The nearest diseased colony, a strong one, was fully two miles away. The affected colony was also very strong, having been a very large first swarm. After some close questioning I found that the hive-body had been bought from an infected apiary where it had been in use for a weak swarm just three weeks. The frames were new with full sheets of foundation. Advocates of the "shake" system of cure will kindly take notice.

As I see it, the essence of this plan is a pure gamble. You despoil the bees of all their combs, stores, and brood, and chance that about 99 per cent of the germs are in the plunder. Then you hope that the germs on the bees and hive will never get an opportunity to enter the anatomy of a bee baby. We in British Columbia are just as anxious to wind up the career of the hundredth germ as the other ninety and nine. One of our inspectors in one apiary found that the spores must have lain dormant three years before their opportunity arrived; for the hive, brought from an infected region in Oregon, had been in British Columbia that length of time before foul brood developed.

E. DUNDAS TODD, Foul-brood Inspector.  
Victoria, B. C., Canada.

## A Simple Feeding Device

I have always been trying to devise some slow but sure automatic way to feed for stimulation since Mr. E. W. Alexander described his stimulative feeding in his bottom-board feeders. I wanted something that would feed very slowly but continuously night and day, and something that could be used in out-yards so it could be carried right along by only going to look after them once in a week or two.

This spring I broke the lining from the inside of a Mason fruit-jar cover, punched a tiny hole from inside in the center of the cover, and put on rubber and cover to make the jar air-tight except the hole punched.

To prepare the hive for the feeder, remove the cover: pick out the center of the cluster if the weather is cool; replace the quilt, and spread on top of quilt several thicknesses of newspaper. Now punch a hole through the quilt and papers between two frames right above the cluster, about the size of the end of one's finger; invert the jar, and set over all the empty supers, and cover. You see there is no space between the feed and the cluster except the thickness of the jar cover, and all the feed is delivered automatically at that tiny point.

All it costs is the cover, which lasts a lifetime, and jars can be used for canning purposes if not in use. The glass jar shows how much feed is in the feeder at a glance. There is no rust, no rot, no leak to this feeder. Try one feeder on your pet colony, and see if these thoughts are not worth the cost of GLEANINGS one year.

Colo, Iowa.

D. E. LHOMMEDIEU.

## Dampening Sections

I take as many sections in my hand as I can hold tight; hold them under a small stream of water; wet them on both sides just where to be bent. A gallon tin can full of water with a nail-hole near the bottom will do.

Acequia, Idaho.

Mrs. I. B. TITUS.

## The National Net-weight Law Does Not Apply to Shipments inside of State Boundaries

I wish a little information in regard to the net-weight law in regard to honey. I sell my honey by the case, nothing being said about weight, to a retail grocer in my own state. Will it be necessary or desirable to stamp the net weight on each section? That is, can an inspector interfere with it unless it is billed to another state? Suppose I were to send a package of honey to a person in another state as a gift, would it have to be stamped? This seems to me a strange law. It is all right for packages that man fills and can put in a certain amount; but I can't see why it should apply to honey any more than to apples, oranges, or eggs.

Arcola, N. C., April 28.

R. B. HUNTER.

[The national net-weight law does not apply to local sales made within a state. You can sell honey at your local grocery, or send it clear across the state anywhere without marking the net weight on the individual sections nor upon the case itself. In a few states laws have been enacted that are in conformity to the national law, but we do not know of any state where it is required to put the net weight upon sections of comb honey.]

You are right. It ought not to be necessary to mark the net weight upon the section of comb honey where the weight varies so, any more than it should be necessary to mark the net weight on each individual hen's egg; but on all interstate shipments it is absolutely necessary, to comply with the federal law.

If you send a case of honey across the state line as a gift we don't know that the law would apply; but we would advise you to mark the weight upon each section, or, perhaps, better, mark the minimum net weight, and then grade the sections according to weight.—Ed.]

## The Variation in the Color of Italian Drones from Different Queens

Why will one Italian queen produce all yellow drones and another one all black drones?

Which are the best drones to mate from—the yellow or the black?

Which are the purest leather-colored stock—the yellow or the black drones?

I purchased two queens last summer, the first in a full colony. This queen's drones are all yellow. Her bees also show some yellow.

The second queen I received was in a five-frame nucleus. This queen's drones are all black. Her bees show a darker color than the above (or first) queen.

Young queens mated from these black drones produce dark-colored bees, some very dark, almost black. Jacoby, La., May 31.

R. L. LINDSEY.

[Italians are not a fixed race. Some strains are yellower than others. The yellower the bees, the yellower will be the drones as a rule, although there are exceptions to this. Drones of leather-colored queens are generally dark; while drones of goldens are quite as yellow as the bees themselves. In the case to which you refer, you probably purchased a queen of the golden order the first time, and the second time a leather-colored queen. It is possible that the second queen was not pure. If such were the case, and you bought a tested, you should send samples of the bees to the breeder, and ask for a replacement. But bear this in mind, that the queens of drones produced from leather-colored bees show almost no yellow, and sometimes none at all; but such drones (if the mother was pure) will produce fine gentle Italians that will probably show two dark yellow bands, and a third one somewhat indis-

tinct, and very often not at all until the bees are filled with honey. The color of the drones is not as uniform as the color of the workers. This means that judging a queen by the color of her drones is not always reliable.

It is evident that the leather-colored Italians come the nearest to being a fixed race. They are more uniform in their general markings—that is to say, they vary less as to the color of drones and workers. They are generally good honey-gatherers, hardy, and uniformly gentle. These Italians are raised on one or both sides of the Alps, and through centuries in a vigorous climate, in high altitudes, and are, therefore, a strong race. The extra yellow Italians are raised in southern Italy or in Sicily. They will not stand our northern winters, are irritable, but are well adapted for a southern or a mild climate.—Ed.]

## Does Honey-dew Granulate More Readily than Ordinary Honey?

Does honey-dew honey ever granulate? My bees are bringing in a honey new to me. It granulates before they can get the cells filled. It is not very dark, and tastes very well. How can I get the sugar out of my extracting-combs for the next honey-flow?

Havana, Ala., May 29.

J. S. PATTON.

[Strictly speaking, honey-dew honey is not honey, and is not so regarded by the Bureau of Chemistry, Washington, D. C. If, therefore, it is not pure honey it might not granulate quite the same as ordinary honey. So far as we know, honey-dew honey does not granulate more readily or more quickly than ordinary honey; but that it does granulate there can be no doubt.]

Of course, it may not be honey-dew honey that you have. There are some kinds of honey that granulate very rapidly, almost as soon as they are stored in the combs.

We would not advise you to have it taken out. If the bees get plenty of water they will utilize it in brood-rearing. It may be advisable for you to dampen the combs containing the granulated honey. If you find the bees carrying the granules out of the entrance of the hive we would advise you to do this, but hardly think they will carry it out.—Ed.]

## Mating before Mailing

If I buy virgin queens and have them mated in my yard, would they be just as strong and prolific as queens mated before they are put in the mail? How would you introduce them in a full hive during the honey-flow?

A SUBSCRIBER.

Mineola, N. Y.

[If you have them mated in your own yard they would be just as strong and prolific and perhaps more so, as if mated before having been sent through the mail. There is this one decided disadvantage—if they are mated in your own yard, they would necessarily mate with whatever drones might be present. In case you have black or hybrid bees your queens would be pretty sure to be mated. The best plan for introducing virgin queens is the smoke method, which we send with each virgin queen sent out. Of course, in order to be sure of success the old queen should always be removed.—Ed.]

## Wood Alcohol Dangerous

A. W. Smith, p. 291, April 1, advises the use of wood alcohol in imbedding wires in foundation. Would it not be well to warn the readers of GLEANINGS that wood alcohol is a dangerous poison? It sometimes causes blindness, and the fumes are very injurious to the eyes.

Boston, Mass.

C. H. HOWARD.



A. I. Root

## OUR HOMES

Editor

Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me.—MATT. 25:40.

Give, and it shall be given unto you; good measure, pressed down, and shaken together, and running over, shall men give unto your bosom. For with the same measure that ye mete withal, it shall be measured to you again.—LUKE 6:38.

I suppose the most of you, my good friends, have heard the story about a man who was moving with his family, household stuff, etc. While making the trip he was obliged to stop at a country hotel over night. This hotel was kept by a good Christian man. I wonder how many such there are nowadays who entertain travelers. Well, after things were taken care of for the night, the stranger sat down on the porch with the good landlord; and among other things he explained that he was going away off because of a mean neighborhood where he had been living, and he had such a mean lot of people around him that he had broken away and was going to get away from the whole gang, etc. The wise landlord replied something like this:

"My good friend, I am sorry to be obliged to tell you that you will find the same sort of people where you are going now."

I cannot remember exactly the rest of the story, but it ran something as follows:

Some time later, another family with a covered wagon, the owner's wife and children and all his household stuff, etc., *also* stopped with this same landlord over night; and, as before, in the evening they sat on the same porch and talked over matters. This second man said nothing would have induced him to move had it not been for the death of a dear relative, and he was really obliged to go and look after a considerable property. He said he hated to leave the people and the neighborhood where he had spent all his life, because there were so many exceedingly good and kind neighbors, etc. Now, what do you think this good landlord said? Why, he said as before, or a little, as you will notice, something as follows:

"My good friend, it gives me much pleasure to assure you that in your new home you will find very much the same kind of people as those you have left."

I suppose this old story has been considered as a sort of joke; but this time the joke really contains a blessed truth. It is something inside of us and not on the outside that makes a neighborhood good or bad. You who have followed me in these Home papers for the past forty years doubtless

remember many instances of where bad neighbors, or people whom some might consider bad, had turned out to be the best and kindest people in the world. It all depends, or at least largely so, on the way we treat people during this voyage we are all making from birth to death.

I am now going to tell you something that Mrs. Root would rule out if she could get hold of it before it comes out in print. Years ago I told you about our cabin in the woods, and the many attractive features in that wild place in the dense woods of North Michigan. After we had been there quite a spell, got our garden started, with flowers around the cabin, busy making the wilderness blossom like the rose, one day Mrs. Root said she was getting hungry for *woman* companionship. There were men and boys at work helping me grow my carload of potatoes; but she did not see any women-folks to gossip with, except at church and Sunday-school on Sunday. Then she began taking good long walks off by herself, calling on the different neighbors; and she used to tell me about the good and kind people she met here and there. They were a busy lot of people, especially during the spring-time and summer; but they were very kind and good people. Down in our Florida home it is much the same way. She went so far off getting acquainted with the "women-folks" that one day she got lost and had to inquire the way home. For several years past we have had one very near neighbor—so near, in fact, that Mrs. Root and her good friend Mrs. Harrison could call to each other from their respective porches; and how these women did visit and enjoy each other's society! It made me think of David and Jonathan. But after the dear friend of several winters past had lived to a pretty good old age, God called her way. Some new neighbors were coming to occupy the vacant home, and Mrs. Root was wondering what *sort* of people they would be. I made up my mind (before I knew *who* was coming), although I did not dare to say it to Mrs. Root, that she would discover, as she almost always did, that the new comers were "just the nicest people in the world," and my prediction came true. Let me give you an illustration:

Our windmill is an automatic oiler; and away up in the air, above every part of the machinery, is a reservoir that holds about a gallon of oil. This needs replenishing about once a year; and I have been in the habit of climbing up over forty feet and clinging

to the machinery as best I could when I filled the tank. It is not at all difficult for one who never gets dizzy, unless a gust of wind should swing the vane so one might get pinched in the machinery; but Huber and Ernest have remonstrated so much about my climbing up there at my age that I rather hesitated. One morning when the machinery needed oiling, my new neighbor was hoeing in his garden just over the fence. As he is a young man, and remarkably strong and spry, I asked him if he would help me a little in my work.

"Sure," was his reply, and he was over the fence and by my side in an instant. He filled the reservoir and then helped Wesley dig some potatoes that were to be delivered at a certain time. When I undertook to pay him for about half a day's work he stoutly declared, "Not a cent, Mr. Root. After you and your good wife have done so much for us, it was just a real pleasure to know that I could in some way help you out; and furthermore," he said, "if at any time when you are up in your northern home, you want either one of us to look after anything on your place here, just keep in mind that it will be a great pleasure for us to attend to any such commission."

How is that for neighbors? I can say with David, "I have been young, and now am old;" and, like David, I have observed, and this one thing impresses me, that it is almost always possible to bring out the good and noble qualities of your neighbors if you do not become "weary in well doing." Keep right on; do not mind the scoffs and rebuffs and unpleasant words. Watch for an opportunity to make friends. Send over some little thing from your garden, or some flowers, fruit, or a section of honey.

I have several times mentioned an exceedingly good and kind friend, Mr. Henry Borchers, of Laredo, Texas. Laredo is just on the line between this country and Mexico. From this friend I get many glimpses of the Mexican people and of what is going on there. You may recall that it was Mr. Borchers who sent me the feterita seed, and the feterita bread and cake. He sent me also about a dozen of the spineless cacti, and finally some of the cacti confection—enough of it so that I took some of it to the prayer-meeting, passed it around, and talked to the good people there about the spineless cacti, the papaya carissa, jaboticaba, etc. Well, I assumed that friend Borchers would at least let me pay the express charges or postage; but he sent my stamps back again, and here is what he said:

Now, I don't want you to say anything about favors, as I am only too glad to do you a good turn; for what you are doing is the Lord's work; and as

I am trying to serve him in every way I can, I feel that in helping you I am helping him. You are doing a wonderful work, and in any way that I can help you, *just command me*. I am at your service. I want you to let me know at any time if I can do anything for you down this way, I assure you it is a pleasure to me to assist you in any way.

You know I have had a great many kind words; but I believe the above, clipped from his letter, is not only about the kindest word, but it pays me the highest compliment I have ever received; in fact, it is about the highest compliment any one *can* receive.

With the above good long preface I am going to submit one of friend Borchers's kind letters just received:

*Mr. A. I. Root:*—At last I am taking time to write to you and answer your questions as well as I can. I have been very busy, as the onion rush has been on in our section, and that turns money loose, and the people want bread. It makes business extra good for a while. It is also a very interesting sight to see the harvesting of the onions. There have been harvested so far about 2500 cars. Think of it—solid trains of onions leaving here daily!

You speak about Florida. I tell you, Mr. Root, Florida may have her crops, but Texas has hers also, and the onions I am writing you about are only from the Laredo section, Webb County.

Now, first I want to say about the alligator pear you wanted a few to taste. I am afraid that I can not get them for you, as one of the enclosed letters from the Department will show.

The larger avocado I may be able to get for you by special permission from the custom-house. They will be in the market across the river (Mexico) pretty soon now, as this is about the time for them, and trains are going to run again now to Monterey, beginning to-day; and just as soon as I can I will send you some—that is, if I can get permission to bring them across.

I am pleased to hear that you like the feterita seed, and will try it (boiling the whole grain) just as soon as I get some more.

I have taken some kodak pictures of the wild spineless cactus, with fruit only, as they have already finished blooming. They are not entirely spineless, but nearly so. Some have more spines than others. The people here use the fruit to eat, and also eat the young and tender slabs. They boil them in salt water about two or three hours until tender, and then cook them with eggs and a little onions, and some use a little red pepper. I have eaten them myself, and am very fond of them. The people here, mostly Mexican, use them during Lent, as that is the time the young leaves or slabs are plentiful. I believe you could also cook them like okra, and perhaps in other ways. You can also use the common cactus the same way; but it is quite a job to clean the spines off.

These wild spineless cactus, so far as I know, are only to be found in town here, and have been grown here for years. These pictures are all taken in back yards of the poorer population, and are not cultivated in this section for feeding stock—at least not that I know of; but the young slabs are sold in the market here the same as vegetables; and if they are still to be had I will send you a few.

The pictures (see page 549 and 550) of the common cactus were taken about seven miles south of Laredo near the Rio Grande. Some few were still in bloom, and I took a fairly good bunch of photos, all of which I enclose.

The picture of the young man on several is our minister (Presbyterian). This common cactus is



what we use for forage here, and you would be surprised to know how much of it is used. They build brush fires and singe the spines and feed it to stock. I buy it by the wagonload and feed it to my cows (I have three of them); and when I happen to run out, you don't know how much less milk we get. The stock will leave other feed to get the cactus. I am also sending you all the literature that I have received from the Department.

Have you ever found out anything about the beans I sent you (aba)? I wrote to the Department at the time I wrote about the avocado, but they entirely ignored my beans, of which I sent them a sample.

You ask me if I have bees and a garden. Yes, I have a garden in my back lot, but no bees. I take GLEANINGS only for the Home department, gardening, and the temperance section by A. I. Root. That ought to make you feel good. You are sowing the seed more than you think. Just let me tell you about something you did the other day. You gave my address to a certain seed-house, and I sold them over twenty dollars' worth of seed that I happened to have on hand (guada bean), and they made me an offer which I accepted; and when I received the money I sent it to the Anti-saloon League of Texas to help make Texas dry. Keep up the good work, and you will be surprised when harvest time comes.

About guada beans, that reminds me that I sent to my baker's supply house for some angelique for use in a recipe (cake); and what do you think? I received some guada beans done up like glazed fruit. There can be no doubt about it. I have it here, and will send you a piece of it. I am also going to send you some more cactus confection.

If there is any other way that I can serve you, let me know, and I shall be glad to do so.

If you ever come to Texas I want you and Mrs. Root to visit us. I began this letter yesterday, and just came back from town. I could not get any real nice cactus confection; but as soon as some fresh arrives from Mexico I will send you some. I am enclosing all literature and correspondence that I have from the Department, and want you to go over it carefully, especially that in regard to the tuna confection. I wish I could have been at your prayer-meeting and heard your talk.

Laredo, Tex., May 25. HENRY BORCHERS.

From the above it transpires that not only the fruit but the cactus slabs, when they are small, can be used for food. In regard to cactus plants for cows and other domestic animals, see article in last issue.

The aba bean mentioned above makes a most astonishing growth on our Florida soil. The beans are about as large as or larger than our largest lima beans. They are red in color, and grow on bushes two or three feet high.

"GETTING EVEN;" A COMPANION CLIPPING TO  
"THE DEFEAT OF INJUSTICE."

The following was also clipped from the  
*Sunday School Times* of a recent date:

#### GETTING EVEN.

To get even with one who has wronged us is to get down as low as he is. The more outrageous his injustice, the lower we shall have to go if we insist upon getting even with him. So "getting even" always leaves us worse off than we were before. If ever one man was unfairly treated by another, it was David, at the hands of jealous, unworthy, infuriated Saul. But when David's chance to get even

came, he preferred to stay on the heights. To "revenge" ourselves is to return the sort of thing that was given to us. It is as though, having been cheated by counterfeit money, we wait for an opportunity to pass some of the counterfeit back to the cheat. No matter what we have suffered, we cannot afford to do that; for then we have been injured twice; and the second injury is far worse than the first. There is a better way of getting even with one who, in order to harm us, has descended to a low level. It is to stay above him in God's company, and by love to bring him up to that level.

Before considering the above, permit me to say that we have now printed and given away something over 20,000 copies of the little tract, "The Defeat of Injustice; or, How to be Happy when People Abuse You." When I saw the editorial in the *Sunday School Times* about "getting even" it impressed me that it should be added to our little tract. By the way, one of my greatest temptations all through life, even since I became a Christian, is to "pay back in the same coin." Somebody has wronged me, or at least it seemed to me that way, and, rather than have a fuss or a jangle, I have "swallowed it down" and looked pleasant, and decided to let it drop like "spilled milk." But there is almost always a temptation to say to myself, "Some time when the chance comes" (and it almost always does come) "I will remember this." But a better spirit (and one that rejoices my heart to remember) almost always, or at least a little later, crowds out the ugly and unchristianlike attitude of mind; and this better spirit, the still small voice, says, "Forget that it ever happened, and treat this poor brother as if it had never happened." And this sort of treatment is what clearly defines and marks the true follower of the Lord Jesus Christ. The great outside world sees it, and at once recognizes the genuine coin. Dear brother or sister, whoever you are, and wherever you are, is not this the best way to get along in this world? And when you come to die, will it not brighten your last moments by remembering that you tried honestly and earnestly to "love your enemies and do good to them that hate you"?

#### STILL PREACHING AT THE AGE OF 112.

Our long-time friend Burdett Hassett, now of Alamogordo, N. M., sent us the clipping below:

#### TWELVE YEARS PAST CENTURY.

The Topeka *Capital* says that the Rev. M. A. Cox, 112 years old, is pastor of the Methodist Church at Almena, Kansas. He has been preaching for forty years. Before this work, he was a farmer. He hitches up his team and drives to church every Sunday, arriving in time to receive his congregation at the door. He is a native of Long Island, New York. His wife died when she was 101. He has been the father of eleven children, eight of whom survive. He has forty-five grandchildren and twenty-nine

great-grandchildren, and a raft of great-great-grandchildren. One of his grandchildren, living in Topeka, is the mother of nine children.

Attention is being called to the fact that, although the United States, and perhaps, for that matter, the whole wide world, is giving just now great attention to producing better domestic animals, nothing is being done, or comparatively nothing, in all

the world, toward peopling the world with better men and women. The above seems to be a start in the right direction. If it is indeed true that this good man has been a hard-working farmer and a hard-working minister throughout all his long life, I venture to say that that great crowd of descendants are, at least for the most part, a blessing to the world.

## HIGH-PRESSURE GARDENING

SWEET CLOVER; POSSIBLY A NEW VARIETY.

A little north of Medina, near our basswood orchard (on the premises of a cousin), while looking over a field of red clover I found here and there some stalks of sweet clover. This is not at all strange, as sweet clover is growing with great luxuriance all along the roadside ever since the road was paved with crushed limestone. This matter has been referred to before—namely, that lime or limestone is needed for all the clovers, especially sweet clover. Well, all at once my eye caught sight of a plant twice as high as any of the rest, with leaves three or four times as large as the other sweet clovers, besides being slightly different in shape of leaf and manner of growth. At first I thought it was not sweet clover at all; but on closer examination, and by crushing the leaves so as to get the peculiar sweet-clover smell, etc., I decided it was either a sport or due to some accidental extra fertility in the soil. I questioned my cousin, and asked him if it was possible that a dead animal had ever been buried there; but he thought not. About a rod away I found another but smaller plant having the same peculiar leaf and foliage. I cut off a couple of branches and sent them to our experiment station, and with it a letter explaining the circumstances. Below is Professor Thorne's reply:

MR. A. J. Root:—I have yours of the 7th, and am much interested in your observations respecting sweet clover. I have referred your letter to Mr. Williams, who is looking after such matters, and he has no doubt that the plant you have found is a mutation, and that it would be well worthy of propagation. If you succeed in growing seeds from it, we shall be glad to receive a few seeds for further experiment. We think it more likely to be a mutation which may have permanent value than to be merely due to superior soil conditions around that particular plant. Of course, this cannot be determined without further experiment.

CHAS. E. THORNE,

Director Ohio Agricultural Experiment Station.  
Wooster, Ohio, June 9.

I have just been down with a good sharp spade and hoe and cleared away the other weeds and clover for the distance of a yard

or more all around the plant. I am going to give it careful cultivation, some lime, and possibly some stable manure; and just as soon as I can get seed ripe enough to grow I will plant it and try, if possible, to get plants that will winter over. The question is, Will these new plants duplicate the parent? If so, we shall have a new sweet clover. See pictures on pages 536 and 537.

Judging from the habits and appearance of this one plant it would furnish double the amount of feed, may be three or four times as much, as the old sweet clover. I may remark that we have just cut and cured two or three acres of yellow sweet clover, and we are planning to get a crop of seed. But we have been told the seeds will ripen even if one cutting of hay is taken off during May. In our locality sweet clover furnishes green feed quicker than any other plant we have ever experimented with. If you will not accuse me of "counting my chickens before they hatch," I will say I am planning to give just a few seeds to any of our readers who may be interested in this promising new God-given plant to the children he loves and to the children *who love him*.

### FETERITA—MORE ABOUT IT.

We clip the following from *Field's Seed Sense* for May, sent out by the Henry Field Seed Co., Shenandoah, Iowa. Although the clipping below comes, as I suppose, from an advertising catalog, it contains valuable instruction in regard to growing this new cereal; and, so far as my experience goes, it is just about right.

#### FETERITA THE IDEAL CHICKEN FEED.

Incubator Johnson certainly started something when he mentioned in his circular that now would be a good time to plant feterita for chicken feed and save the high-priced wheat.

You know I have been growing and selling feterita for two or three years, and am very enthusiastic about it, and knew that it was splendid chicken feed, but I never thought to mention it. I guess I just took it for granted that everybody else knew it too, and, furthermore, I never got it through my head how hard it was going to be for the women folks to



get wheat to feed their chickens now that wheat is selling at \$1.50 per bushel. I might have known, too, if I had stopped to think. Any way, Incubator Johnson, who is mighty good authority on chickens and their troubles and needs, mentioned in his circular that every one ought to plant a little patch of feterita for chicken feed and save the high-priced wheat, and I guess we have had 1000 letters about it in the last six weeks.

As usual, Incubator Johnson is absolutely right. Feterita is just made on purpose to feed chickens. It is the ideal chicken feed in every way. It is a better-balanced ration than corn or wheat. Chickens will eat it greedily, and will thrive on it. It cannot hurt the chickens in any way. It is just the right size for them to eat; and if you want to you can throw it to them in the head and make them scratch it out. It will keep all winter like wheat or corn.

The best thing about it is that anybody can grow it in any part of the United States. I don't suppose there is a state in the Union where you cannot grow feterita. It is as early as the very earliest hardest field corn. It will mature easily in from 75 to 90 days of summer weather. It will yield more than field corn; even under unfavorable conditions it will make a good crop where field corn would make an absolute failure.

It will stand more drouth than any other crop I ever saw. Down in Oklahoma, in the dry weather they made a good crop with it with only five inches of rain for the entire summer, and only one inch of rain between planting and heading.

It should be planted in rows like field corn—just about the same distance in the rows—that is, one seed to every five or six inches in the row. This may look thin, but it is the best way to plant it. If you sow it thick it will make very little grain and lots of fodder; but if you get about one good stalk every six inches in the row, and the rows three to four feet apart, every plant will make one big head and three or four small ones, and a big head of it means about a pound of grain.

It should be planted later than field corn. This would mean anywhere from the middle of May to the first of June according to your climate. If you are in the habit of planting field corn about the middle of May, then wait until about the first of June to plant the feterita, or until the ground and weather are thoroughly warm. Don't plant it too deep. It should be planted shallow—never more than an inch deep.

It should be cultivated just like field corn or sweet corn, or any other similar crop. It can be hoed or tilled with a horse.

It heads very rapidly, and is ready to harvest in August or September. The best way to do is to go through with a knife and cut the heads off and carry them out just as you would ears of corn. Pile them up in a corn-crib or granary, or some such place, where they will be dry, and they will keep just like ear corn. The fodder is as good as corn fodder, and can be cut and shocked the same way. It makes splendid cow feed. You will need about five pounds of seed per acre, although some people get along with as little as three pounds. It depends on how careful you are in planting it.

It is somewhat similar to kaffir corn, but is better on account of its earliness, heavy yield, and its extreme drouth resistance. It will stand more drouth than kaffir corn, will make a heavier yield, and on account of its earliness can be grown much further north or northwest. It is better than shallu or Egyptian wheat for the same reason. It is earlier and heavier yielding than milo maize, and is much better than field corn, because it will stand much more drouth and will do better in small patches. It will grow on any soil, no matter how thin, but will make the best yield on fairly rich soil.

Here is what a customer in Oklahoma has to say about feterita:

"Well, Mr. Field, I guess I know just about as much as any farmer about feterita. It is the best all-around crop ever planted in Oklahoma. I have raised three crops of it. It will average about 50 bushels to the acre, one year after another, but I think 100 bushels or more can be grown on one acre under favorable conditions. The main thing is to plant it very shallow; ½ inch is plenty deep. It is the best crop a lazy man ever planted. It will yield more without rain or cultivation than any other crop you can plant."

CASSAVA, DASHEENS, AND PAPAYA.

On page 471, June 1, our good friend Thompson wonders if their manioca is identical with our cassava; and at the time he wrote that letter he very kindly sent me a package of cuttings of their manioca. They were at once turned over to my good neighbor Harrison, who lives close by our Florida home. Here is what he says about them:

*Mr. A. I. Root:*—The feterita is as tall as I can reach. Nearly all has headed. Another papaya is turning yellow. The canes that came from Africa have begun to grow. Five leaflets are in sight, and one is three inches tall. I will see to transplanting when they are ready and we have a good shower. We are enjoying the abundance of little yellow pear tomatoes. C. L. HARRISON.

Bradentown, Fla., May 26.

In regard to the pear-shaped tomatoes mentioned above, permit me to say that the finest tomatoes we grew last summer here in Ohio—in fact, it seems to me the finest tomatoes I ever tasted—were some yellow pear-shaped tomatoes. The vines ran all over the garden like cucumber-vines; and under the stimulus of plenty of manure they produced tomatoes almost as large as small hen's eggs. They just made the ground yellow. I took some seeds down to Florida, but they did not grow as large nor as fine as they do here in Ohio.

Below is a letter from a good brother in regard to the papaya fruit in Cuba, etc.

*Mr. Root:*—I have read for some time with interest all you have written about your Florida farming. In the April 1st and May 15th numbers you mention the papaya, which, being so common here, I wonder if we could not give you some ways to use this exceptionally fine fruit that you have not tried; at any rate, there will be no harm done in telling what we do with it.

Of course, when ripe you know how fine it is, eaten like any northern cantaloupe, with salt or sugar according to the taste. Before it is ripe, and while still quite green, or, rather, all green in color, peel and slice the meat and prepare as you would an apple for sauce, adding some lemon or lime juice or other fruit juices if you prefer; but with the lemon the sauce thus prepared can hardly be told from the real apple article, and in pies is very fine, or, made into shortcake, equally good. When well ripe, if peeled and the meat run through a colander, then handled same as pumpkin, it is hard to tell the difference. We have had many tourists come here who would discover a pumpkin in their rambles, and, of course, want a pie; and after they had carried the pumpkin to the house we would substitute the papaya without their detecting the substitution.

Our trees must grow larger than yours. I have seen them here 25 or 30 feet high, and a foot through at the bottom. This morning in riding

across the country some 25 miles from my place I saw a tree in a Cuban's yard that had over 50 fruit on it. Three years ago I had a friend who planted many of the papaya-trees in order to sell the fruit. He had a seedless variety, and they were very large and much nicer-flavored than the ordinary, I thought. I don't know where they came from, as I had never seen any like them before or since, but could no doubt find out very easily, as he is still in Cuba. I have the papaya-trees planted this year 8 feet apart in front of 300 colonies of bees at this place. I believe they will give me ample shade, and at the same time not interfere with working around them. In Mexico they sear the skin when green, and a white milk collects and crystallizes, and this is sold, I believe, to Park Davis & Co., for making some kind of stomach medicine. The dry crystals, I believe, are worth about \$40 per lb. This is what I was told, but cannot vouch for the truth of it. The chickens and pigs seem to like the papaya very much; but what value as a food for such animals it has I do not know. The male trees do not bear fruit here.

We hear much about the dasheens of Florida, and from the pictures and descriptions have often heard it said they were the same as our malanga. There are two varieties, but one is not edible. The potatoes are the only part ever eaten here to my knowledge, and then but seldom, although the malanga grows in most yards among the Cubans. Perhaps when you again go to Florida I might send you some things we have here wild that are new there, and would be very glad to do so if you would be interested.

Holguin, Cuba, May 23.

D. W. MILLAR.

Many thanks, friend Millar, for the information you give us. I knew that a medicine was prepared from the papaya fruit, but I did not know before how they managed it. I am pretty well satisfied that the fruit when dead ripe is a help to good digestion. There are trees in Florida very much larger than my own; but as they are sensitive to frost, unless when near water, they are often cut back. In regard to the male trees not bearing, a missionary in South America who visited our garden told me they did *sometimes* bear, but that the fruit from such trees was on the end of a long string or cord; and we had about half a dozen such fruit on one of our trees. The fruit does not look like the one pictured from the female tree. I also saw the malanga during the winter I spent in Cuba; but the quality of the tubers was very much inferior to our Trinidad dasheens.

My good friend, I am exceedingly obliged to you for your kind offer; and if you can send me a little plant of the seedless papaya, or one that is nearly seedless, I would pay almost any price for it.

## HEALTH NOTES

### "FLUID ENSEROL" AND THE VALUE OF BORACIC ACID FOR THE EYES, EARS, ETC.

On page 742, Sept. 15, 1914, I gave my experience with the so-called fluid enserol. Below is a letter in regard to the same matter:

*Mr. Root:*—A good many years ago my father worked in the boiler-works and lost his hearing, and was not able to hear unless a person was quite close and raised his voice very high. About a year ago last fall he received this booklet, "A Woman's Story," and sent and got the prescription filled, and started to use it early in the fall, and continued to use it all winter. Along in the spring we were sitting on the porch waiting for supper when mother spoke from the kitchen and said, "Supper is ready." He turned to me and repeated it; and as she was across two rooms from us, and spoke in an ordinary tone, and I had barely heard her, I asked him if he had heard her say so, and he said he had; and then he took out his watch and could hear it tick in one ear. That was the first time he had heard a watch tick for 25 years, and he was much pleased over it, I tell you. But it did not last long—only a few days, and then he was worse than he had been before. But he had faith in the medicine and kept on using it; and after a couple of weeks his hearing came again, and he could hear so well that it hurt him; for if he was near the railroad he had to hold his hands over his ears; and while driving along the road, and the wagon would rattle, he would get off to see if something was wrong, as it was so loud to him. Soon his right ear quit again; but he can still hear well out of his left, and can hear an ordinary conversation in a room or outdoors ever since; but his right ear is still deaf. He still uses the

medicine, but it is so old he is going to get some new, and feels that it will fix that one ear up too.

There are hundreds of people who can verify all this, and a good many are using this medicine after seeing what it did for him, and some have been benefited already, while others are still using it. Now, if Mr. Root is hard of hearing, or any other person, I would advise such to use this and not despair, as I feel sure it will fix them if they keep right on long enough.

It was fully six months before it helped father; but it stopped the noises in his head in a few weeks, and he says that was worth all the money invested, because the noises were awful all the time. He compares them now to a big storm coming up roaring through the woods, and he never heard these storms until after he got to hearing things.

Springboro, Pa., March 9. FRANK P. DORR.

I am exceedingly glad to get the above, for it verifies what I suspected before, that boracic acid, very much diluted, of course, is an excellent remedy for eyes and ears. In fact, I believe this is well known and well recognized by medical men for years past. Our friend who writes the above speaks of noises in his father's ears, which he endured while the deafness lasted. This reminds me of something I had forgotten to mention. There are times when I hear a roaring, something like the cars coming or a storm far away. Here in Medina I have often asked Mrs. Root if she heard a roaring. Of course she did not. The use of



boracic acid in the ears of the patient cleanses them more effectually than soap and water or anything else I have ever tried. Some time ago I told you about using it for an inflamed eye; and I see it is frequently mentioned in medical journals or in articles on medicine. Now, here is a point, however, that must not be lost sight of. I paid \$1.25 for an ounce of this fluid enserol that did not cost more than a few cents. To keep the matter before us I have been examining druggist's wholesale price lists, and I see fluid enserol quoted at 85 cts. an ounce.

It indicates that a big lot of the much-advertised patent medicines are only common well-known remedies with some fictitious name tacked on to them. In the magazine called *The Good Health Clinic*, for May, a list of about twenty advertised medicines are given, and I think the list was taken from *Harper's Weekly*. Here is one of them:

Murine—once a "cure," but now a "remedy" for sore eyes; a plain boracic-acid wash. Sells for \$1 an ounce, and can be made for about five cents a gallon.

You will notice this "Murine" is the same old boracic acid under a different name—the dollar-an-ounce medicine that can be made for five cents a gallon. Here is what the editor of the magazine says in regard to it:

These well illustrate the "Two Biggest Frauds on Earth"—the fraud that takes \$1.00 of a man's money for what costs one cent and the fraud that gives him the expectation of the relief and cure of his diseases by way of some drug poison—and the common name of both these frauds is "Medicine."  
E. E. K.

While we are about it, I wish to make just one more clipping from this list of

medicines or foods. It is in regard to our old friend sanatogen:

Sanatogen, "the life food and nerve tonic"—just plain ordinary cottage cheese prepared in powder form.

Here it is again, a dollar a bottle for cottage cheese which is sold in our Medina markets for 10 cts. per lb., and at the same price away down in our Florida home, and probably all over the land. It is, as is well known, a very wholesome and concentrated article of human food. No doubt it helps many people who have not been accustomed to use or get acquainted with cottage cheese, and may be it will do more good because it costs a dollar a bottle than if they got it for 10 cts. per lb.

In closing, just a word to our friend who has trouble about hearing. Go to your druggist and get the remedy, and use it as described in the journal referred to, for last year. But instead of paying \$1.25 an ounce for enserol, go to your druggist and get some boracic acid. He will tell you about the quantity of it to use to make it good both for eyes and ears.

And there is something else you should keep in mind: It is not positively *sure*, although it is quite probable, that this man's hearing was restored by the enserol. If you look about you, you will find that old people frequently get back their sight—yes, and in some cases hearing also—without taking any medicine whatever. A few days ago I was surprised and delighted to note that I could read an ordinary newspaper while standing outdoors, without my eye-glasses. Now, had I been taking some sort of "treatment" in order to see without the aid of glasses I might have been ready to swing my hat and give a big testimonial.

## TEMPERANCE

### GOD'S KINGDOM COMING.

I am surprised at you, brother Root. If you were a young man, and had no personal knowledge of how the Devil has been licked over and over for the past seventy years or so I could account for your pessimism. I am only 42; but I have seen so many unexpected public reforms occur in my lifetime that I think amazingly rapid progress has been made. Perhaps your article in your June 1st issue means you become discouraged only over the liquor-traffic. You say, "We get answers to our prayers in everything except in regard to the liquor traffic." Now, do you not think you really ought to ask the Lord's forgiveness for such an incorrect statement when you stop to think of how even the preachers drank, and an active prohibitionist was about as welcome in a church as skunk in a beehive? At least that is what the historians tell us; and even within my own memory drinking church-members have left my own denomination, the Meth-

odist, for some more liberal on the liquor question. But to-day they find that all the denominations denounce them; and when we look at the diagram maps the Anti-saloon League issues from year to year, and see how the black spaces have been so marvelously reduced (indeed, they have to print new maps oftener than once a year to keep up with the progress), I feel like shouting "Hallelujah!" that I should live to see this. Think of the early temperance reformers. My grandfather was a Washingtonian. I suppose they get the election returns in heaven; and if they rejoice so much over one sinner that repenteth, they must be singing a mighty chorus as, month after month, the reports come in of whole states and even whole nations driving out the liquor saloons.

If, even in the darkest hour, God is able never to leave himself without witnesses, and has at least seven thousand who refuse to bow the knee to Baal, why should any one become discouraged when we

lift up our eyes and see the fields white for the harvest with more than seventy times seven thousand added to prohibition territory every few months? What must those women who started praying in saloons with their crusade so many years ago think as they see the changed conditions of to-day?

We are living, we are dwelling,  
In a grand and awful time,  
In an age on ages telling—  
To be living is sublime!

In the very same mail with GLEANINGS comes the June 4th issue of the *New Republic*, and I see the big Brunswick Balk-Collender Co., the largest manufacturers of bar-fixtures in the United States, has quit the business, and sent its formal notice that "We will discontinue the line absolutely." Why, your statement about the Lord not answering prayer for victory over the saloon sounds to me almost blasphemous after reading a newspaper item like this. But that is not all. On the next page is another item saying that in Ohio under the glorious privilege of the initiative and referendum it is so blessed as to enjoy, the Anti-saloon League has more than 200,000 signers on its petition for statewide prohibition; and the question will be voted on next November. Praise the Lord for Ohio's initiative and referendum! I most earnestly pray that the enemies of God who have so long held Indiana in political slavery without the rights of freemen that exist in the other states of our country, shall by some means be overcome, and that we too can get the initiative and referendum. When we do, then we too can submit the question of statewide prohibition. Until we get the initiative and referendum our case is hopeless. We asked the legislature last winter to submit the prohibition question, but as usual the request was refused. Of course the people's vote must be campaigned, for even under the initiative and referendum the people may vote down prohibition; but the initiative and referendum gives the chance to make a campaign for prohibition, and we can get that chance no other way. GLEANINGS ought to boost the initiative and referendum at every opportunity because it helps prohibition.

Greencastle, Ind., June 4. DANE S. DUNLOP.

My good friend, I own up and stand rebuked; but at the same time I wish to explain that when I referred to prayers unanswered I had in mind the matter of license and revenue, which Lincoln consented to under protest. While the people of the United States knew exactly what he said and what he meant, this "shame and disgrace" to the American people has been permitted to go on year after year for *forty* years, notwithstanding our prayers and protests. Our innocent wives and children have suffered and starved for forty years just because the common people, such as you and I, were afraid to stand up and demand that this Achan, with his wedge of gold, should be cast down and out. Yes, we have abundant reason for thanksgiving, for "God's kingdom is coming," even if it has taken us long years to wake up and work as well as pray.

While we are considering this matter, I notice that Dr. Miller says in *Stray Straws* for June 15, "I plead not guilty." That is true, doctor, and we rejoice over it; but, notwithstanding, it is true that we Ameri-

cans have permitted this thing to go on for over forty years.

#### IOWA'S EMANCIPATION, ETC.

The Iowa legislature has just passed a law repealing the "mulch law," also a resolution submitting an amendment to the constitution of the state, allowing equal suffrage. As most people know, Iowa had statutory prohibition; but owing to non-enforcement thereof it was unsatisfactory, and what is called the "mulch law" was passed some twenty or more years ago. This "mulch law" provided that certain communities, generally counties, could, by circulating what became known as "saloon consent" petitions, disregard the prohibition law, provided a certain per cent of the voters signed it. The number of saloons was limited to one for so many of population, and the license was, I think, left to be fixed by the city authorities where the saloon should be allowed.

In communities where the foreign-born population held the balance of power, as they do in some parts of the state, the "mulch law" was an improvement in practical results over prohibition, for in such communities prohibition was a dead letter, and booze was free and uncontrolled. But the saloons near the edge of the "wet" territory were always a curse to the adjoining "dry" territory, because it is so easy for those so disposed to go by team, by auto especially, and by train, and, after filling up themselves, bring back some in jugs and bottles. "Stolen waters are sweet," so that liquor, thus obtained, no doubt tasted better to some than if they could step into a saloon any time at home and get a drink.

Billy Sunday held meetings in Des Moines last fall. After that, if I mistake not, an "anti-saloon" petition went around, and Des Moines went "dry;" then the dries got busy in the legislature, with the result as stated. There is a strong prospect this time of the legislature making extra provision to enforce prohibition by state marshals appointed so as to be independent of local sentiment. There is a statewide demand for enforcement, which is what prohibition has always needed, and lacked in so many instances.

It is commonly expected that equal suffrage will carry. Prohibition goes into effect Jan. 1, 1916.

Dunlap, Iowa, March 9.

E. S. MILES.

#### GOD'S KINGDOM COMING.

From the *Cleveland Plain Dealer* I clip the following heading:

DRYS WIN OUT IN EAST CLEVELAND, CAST 1543  
VOTES FOR PROHIBITION UNDER BEAL LAW;  
212 AGAINST.

I submitted the above to Ernest, and asked him what it meant that a part of the great city of Cleveland should give such an astounding majority for prohibition. He said one reason for it was that *East* Cleveland is made up mostly of resident districts, and that, no doubt, even the saloon-keepers and brewers themselves do not want saloons in the vicinity of their homes.

#### THREE CHEERS FOR ALABAMA; GOD'S KINGDOM COMING.

The Alabama Supreme Court has declared constitutional the law forbidding papers or magazines to print advertisements of liquor. This is important, because it deals with the right of the public to determine what a paper shall print. The point was that, so long as the liquor interests could advertise largely, they could control the policy of the newspapers.—*Ru'al New-Yorker*.